UMASS/AMHERST
312066 0333 2605 3

LIBRARY
OF THE

MASSACHUSETTS
AGRICULTURAL
COLLEGE

SOURCE Mass. State board of agric.
Per
1912

This book may be kept out

TWO WEEKS

only, and is subject to a fine of TWO CENTS a day thereafter. It will be due on the day indicated below.

MASSACHUSETTS
CROP REPORT

25
1912

Ducks and geese.....August

Irrigation in Massachusetts.....June

Pork making for Massachusetts farmers...May

Pruning the apple tree.....September

Silos and silage.....July

Some suggestions on barn building...October

SERIES OF 1912. VOL. 25. NO. 1.

MASSACHUSETTS

CROP REPORT

LIBRARY of the Massachusetts
JUN 22 1912
Agricultural College

FOR THE

MONTH OF MAY, 1912.

PORK MAKING FOR MASSACHUSETTS FARMERS.

THE CONTROL OF CUTWORMS.

ISSUED MONTHLY, MAY TO OCTOBER, BY STATE BOARD OF AGRICULTURE, STATE HOUSE, BOSTON, MASS.

J. LEWIS ELLSWORTH, *Secretary.*

ENTERED JUNE 3, 1904, AT BOSTON, MASS., AS SECOND-CLASS MATTER, UNDER ACT OF CONGRESS OF JUNE 6, 1900.

BOSTON:
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
18 POST OFFICE SQUARE.
1912.

29

C
Per
M38
1912

APPROVED BY
THE STATE BOARD OF PUBLICATION.

Crop Report for the Month of May, 1912.

Office of the State Board of Agriculture,
Boston, Mass., June 1, 1912.

This is the first number of the Crop Report, series of 1912. The form of these reports will not be changed from that of past years, but the scope will be extended to include notices of public meetings, fairs, new publications, and like things of interest to our farmers, so far as space will permit. We want our readers to take an active part in making these reports more and more valuable, and we welcome constructive criticism to this effect.

The special article this month is by Dr. George M. Twitchell of Auburn, Me., one of our most popular farmers' institute speakers, and widely known throughout New England. It deals with a subject of interest to every stock-keeper, namely, "Pork making for Massachusetts farmers."

Progress of the Season.

The Crop Reporting Board of the Bureau of Statistics, United States Department of Agriculture, estimates, from the reports of correspondents and agents of the Bureau, as follows: —

On May 1 the area of winter wheat to be harvested was about 25,744,000 acres, or 3,418,000 acres (11.7 per cent) less than the area harvested in 1911, and 6,469,000 acres (20.1 per cent) less than the area sown last fall (32,213,000 acres). The average condition of winter wheat on May 1 was 79.7, compared with 80.6 on April 1, 86.1 on May 1, 1911, and 85.2, the average for the past ten years on May 1. A condition of 79.7 per cent on May 1 is indicative of a yield per acre of approximately 14.4 bushels, assuming average variations to prevail thereafter. On the estimated area to be harvested, 14.4 bushels per acre would produce 370,714,000

bushels, or 13.9 per cent less than in 1911, 14.6 per cent less than in 1910, and 11.3 per cent less than in 1909. The outturn of the crop will probably be above or below the figures given above, according as the change in conditions from May 1 to harvest is above or below the average change.

The average condition of rye on May 1 was 87.5, compared with 87.9 on April 1, 90 on May 1, 1911, and 89.2, the average for the past ten years on May 1.

The average condition of meadow (hay) lands on May 1 was 85.7, compared with 84.7 on May 1, 1911, and a ten-year average on May 1 of 88.6. Stocks of hay on farms May 1 are estimated as 3,888,000 tons (8.2 per cent of crop), against 7,546,000 tons (12.4 per cent) on May 1, 1911.

The average condition of pastures on May 1 was 81.7, compared with 81.3 on May 1, 1911, and a ten-year average on May 1 of 86.4.

Of spring plowing, 52.8 per cent was completed up to May 1, compared with 71 per cent on May 1, 1911, and a ten-year average on May 1 of 67.6.

Of spring planting, 48.9 per cent was completed up to May 1, compared with 60 per cent on May 1, 1911, and a six-year average on May 1 of 55.2.

Weather Summary, Jan. 1 to May 1, 1912.

[Furnished by Weather Bureau, Boston.]

January: The month was unusually cold, with precipitation generally below the normal. The monthly mean temperature in the several sections of the State ranged from 5° to 8° below the normal for the month. The unusually low mean was, however, due to uniformly cold weather throughout the month, rather than to any extremely low range of the mercury. There was somewhat more than the average amount of snowfall in nearly all sections, but on account of the low temperatures prevailing during the snowstorms the water equivalent was small, which accounts for the monthly precipitation being below the normal. The ground was covered with snow throughout the month, the amounts at the close ranging from 4 to 12 inches.

February: Fair, cold weather prevailed through the first two decades. After the 19th the temperatures were somewhat higher, with copious precipitation. The ground was well covered with snow during the month, excepting in southeastern portions of the State, where there was little after the 20th. The monthly precipitation was generally slightly below the February normal. The monthly mean temperatures were very nearly the same as during January, ranging from 4° to 7° below the normal. There was more than the average amount of sunshine.

March: The temperature was very near the seasonal average, with excessive monthly precipitation. The monthly amounts of precipitation ranged from 4 to over 8 inches. The snowfall was above the average, the amounts for the month ranging from 6 inches in coast sections to 15 inches in the interior. The weather of the month was characterized by much cloudiness, with frequent precipitation, rain or snow falling on an average of seventeen days. Generally speaking, March was a stormy, disagreeable month.

April: The weather conditions of the month were generally seasonable. The average temperature was normal, and there were no marked extremes in either maximum or minimum temperatures. The precipitation was about the average in all sections, and although there were no very heavy amounts of rain in any one storm, the number of days with precipitation was greater than usual. The month as a whole was generally cloudy, and at the close the season was from a week to ten days later than the average.

Temperature and Rainfall for the Whole Country.

[From the United States National Weekly Weather Bulletin.]

Week ending May 6. — Moderate temperature in early part of week in all districts, being slightly higher than the previous week. Cooler weather in the middle of the week, and it was quite cool in New England, the middle Atlantic States and from the central plains to the Pacific. Over the central valleys and southern districts it continued warm. As a whole, it was the warmest week of the season to date over the interior

valleys; somewhat cooler than normal over the Atlantic coast States from Virginia northward; weekly means were from 6° to 10° low over the western States. The rain area over the lower Ohio valley at the end of the previous week moved eastward to middle Atlantic coast by Tuesday morning. A general low-pressure area prevailed over the northern districts, from the Rockies to the Pacific coast, and moved eastward into the Plains region Friday and Saturday. Heavy rains occurred in portions of the Gulf and south Atlantic States, precipitation ranging from 2 to 4 inches for the week in eastern Texas, the middle Gulf States, and from North Dakota eastward to northern Michigan. No rain occurred in northeastern New England, in portions of Missouri, Kansas, western Kentucky, and generally over the southwest.

Week ending May 13. — Only slight changes in temperature were the rule in nearly all parts of the country in the early part of the week. Warm weather continued over districts east of the Mississippi, but in the northern Rocky Mountain regions it continued cold, with heavy frosts in high localities. By the middle of the week the western districts grew warmer, and the cooler weather advanced into the central valleys. Eastward from the Rocky Mountains the latter part of the week was moderately cool. The average temperature for the week as a whole was slightly above normal in the Mississippi valley, and more so in the districts to the eastward, the regions from Georgia to the interior of New England, over the south Atlantic and east Gulf States and in the Lake region. Heavy local rains occurred Monday and Tuesday throughout the southern and eastern portions of the country, while west of the Mississippi was without rain. Near the middle of the week cloudy weather developed between the Rocky Mountains and the Mississippi, which by Saturday concentrated in a severe storm over Missouri. This reached the St. Lawrence valley by Monday, but with greatly decreased energy. The latter part of the week was mostly without precipitation west of the Mississippi, except that heavy snows fell in the middle Rocky Mountain region. The precipitation for the week was heavy throughout the

east and interior, varying from 4 inches in the lower Mississippi valley to 2 inches at the Atlantic coast.

Week ending May 20. — The extensive area of high pressure and attendant cold, central over North Dakota and eastern Montana the first of the week, moved slowly southward over the Rocky Mountain and Plains region during the early part of the week, accompanied by frosts in the more exposed localities. Its influence was felt in lower temperatures in the central valleys. Over the far northwest warm weather continued. The latter part of the week continued cool in the Ohio valley and over the middle Gulf States; in the remaining portions of the country the temperature had risen to near or above the normal. As a whole, the week was unusually cool in the interior. Along the immediate Atlantic coast the temperature was near the normal, being somewhat above over eastern New England; westward from the Rockies it was warmer than the average. A storm central over the St. Lawrence valley the first of the week caused rains over New England and portions of the lower Lake region Monday and Tuesday. By Thursday unsettled weather prevailed over the entire country east of the Mississippi, with the exception of New England and northern New York. By Friday the storm had moved to the upper St. Lawrence valley, and rain had fallen generally throughout the north Atlantic States and in the lower Lake region. The middle and latter portions of the week were mostly without rain over the great central valleys. The total fall for the week exceeded 1 inch along the Atlantic coast northward and much of Florida. Over most of the remaining portion of the country there was less than ½ inch, and considerable areas had no appreciable rainfall.

Week ending May 27. — Eastward from the Rocky Mountains the week opened comparatively cool in the northern tier of States, while a change to considerably warmer weather was in progress in the south. West of the Rockies the temperatures were becoming more nearly normal. As the week advanced there was a general increase in temperatures over the central and eastern districts, until Thursday, when cooler weather temporarily overspread the middle Atlantic States

and New England. The extremes of temperature were not marked except in portions of the southwest. Generally fair weather prevailed in all districts at the beginning of the week, except along the northern border and parts of the Atlantic coast, where locally heavy rains occurred at intervals. During the middle portion of the week but little rain occurred in any portion save for local showers, but toward the latter part unsettled conditions developed over the Pacific coast States and in northern districts west of the Rocky Mountains. By Monday this unsettled condition had developed into a marked low-pressure area, central over North Dakota. Over the eastern and a greater part of the southern districts there was but little rain during any portion of the week. The total precipitation for the week was the least of the season to date throughout the country.

Special Telegraphic Reports.

[Weather Bureau, Boston.]

Week ending May 6. — New England. Boston: Precipitation ranged from none in parts of Maine to somewhat above normal in Connecticut. The weather was usually fair, with nights cold. Higher temperature is much needed.

Week ending May 13. — New England. Boston: Except for about two days near the close of the week, the weather was generally cloudy, with frequent rains. The precipitation for the week was above the normal, the temperature seasonable. The ground is well filled with water, and conditions are excellent for rapid growth when there is a good amount of sunshine with higher temperature.

Week ending May 20. — New England. Boston: The rainfall was above normal and the temperatures were moderate. The ground is well filled with water. Higher temperature and more sunshine are needed.

Week ending May 27. — New England. Boston: Considerable cloudiness, with frequent showers, marked the week. Precipitation was generally in excess of normal and temperature about normal. Conditions were very favorable for rapid growth.

The Weather of May, 1912.

The mean temperature was slightly higher than the average of May, with somewhat more than the normal rainfall. The month opened with several days of seasonal temperatures. followed by a cool spell from the 4th to the 9th, during which the temperatures ranged from 2° to 10° below the average. With slight exceptions the daily temperatures during the rest of the month were above the average, the excesses being quite marked from the 17th to the 19th, and from the 24th to the 29th, the highest temperatures of the month occurring during the latter period. The rainfall was well distributed through the month and over the State, and the monthly amounts ranged from near the average to from 1 to 2 inches above. Rain fell on an average of twelve days. Thunderstorms of considerable severity occurred on several days, generally in eastern sections. There was less than the average amount of sunshine. Generally speaking, the weather of the month was not very favorable to outdoor pursuits, and at the close the season was from a week to a fortnight later than the average.

Publications, Nov. 1, 1911, to June 1, 1912.

In November, 1911, the Board published Bulletin No. 5 of Massachusetts Agriculture. This bulletin contains the various articles printed in Volume 24 of the Crop Report, with the exception of that upon "Beekeeping." in the September issue, thus making these various articles available again for distribution. Following is the contents of Bulletin No. 5: —

Market Gardening.
The Home Garden.
* How to test Seeds.
* How to plant.
Potato-growing Suggestions.
* Growing and Marketing Asparagus.
* Celery Growing, Storing and Marketing.
Growing and Marketing of Squashes, Melons and Cucumbers.
Cabbage and Cauliflower as Market-garden and Farm Crops.

The More Important Root Crops of the Market Garden.
Beans, Corn, Tomatoes, Lettuce and Spinach as Market-garden Crops.
The Cultivation of Mushrooms.

Those starred have been published also in separate pamphlet form, and are available as single publications.

Advance sheets from the annual report are available, as follows: —

The Production of Sanitary Milk by our Present Milk Producers. By Dr. Chas. E. North.
The annual report of the State Inspector of Apiaries, Burton N. Gates.
The annual report of the State Nursery Inspector, H. T. Fernald.

The Board has for distribution at the present time copies of the annual reports for the years 1902, 1903 and 1904. These reports contain some valuable articles, and can be had by those applying for them and enclosing postage, as follows: 1902, 21 cents; 1903, 22 cents; 1904, 23 cents. Following is a table of contents of these three reports: —

1902. — Beef Production in New England. By Prof. J. W. Sanborn.
Two Years with the Birds on the Farm. By E. H. Forbush.
The Need and Economic Value of Improvement in Dairy Stock. By Geo. H. Ellis.
Roadside Improvement. By W. C. Jewett.
Greenhouse Construction and Management. By Prof. S. T. Maynard.
Some Inexpensive Ways of making Farm Poultry More Profitable. By John H. Robinson.
Cucumber Growing in Massachusetts. By Dr. Geo. E. Stone.
Improvement of Pastures. By Prof. J. W. Sanborn.
Special Report on Tree Surgery. By E. H. Forbush.

1903. — Progressive and Profitable Poultry Culture. By John H. Robinson.
Outlook for New England Agriculture. By Dr. Geo. M. Twitchell.
The Successful Type of Horse that may be profitably raised by New England Farmers. By H. W. Smith.
Manurial Problems in Soil Renovation and Improvement. By H. J. Wheeler.

Improved Live Stock. By Prof. C. H. Shaylor.
Fruits for the Home Garden. By Prof. F. A. Waugh.
Summer Management of the Dairy Herd. By Prof. F. S. Cooley.
Beekeeping: its Pleasures and Profits. By Prof. Jas. B. Paige.
The Management of Poultry on Small Farms. By John H. Robinson.
Some Important Scale Insects. By Dr. H. T. Fernald.
The Prevention of Fungous Diseases peculiar to Greenhouse Plants. By Dr. Geo. E. Stone.
Special Report on the Destruction of Birds by the Elements. By E. H. Forbush.

1904. — Harness your Forces. By Dr. Geo. M. Twitchell.
Producing and Marketing of Milk. By Frank B. Allen.
The Profitable Dairy Cow. By Prof. C. S. Plumb.
The Advisability of Agricultural Education in Elementary Schools. By Prof. L. H. Bailey.
Present Definitions of Soil Fertility. By Dr. W. H. Jordan.
Food Adulteration and the Farmer. By Dr. H. W. Wiley.
The Hay Crop in Massachusetts. By Prof. Wm. P. Brooks.
The Growing of Mushrooms. By Dr. Geo. E. Stone.
Harvesting and Marketing Apples. By Prof. F. A. Waugh.
Breeds for the Farm, and Farmers as Poultry Breeders. By John H. Robinson.
Beekeeping: How to meet its Dangers and Difficulties. By Burton N. Gates.

If more than two of these reports are desired it would be best to have them sent by express, collect. Our appropriation is insufficient to permit our prepaying transportation charges on these reports.

Bulletin No. 2, on "Orcharding," is exhausted, but a reprint of this is now in press and will probably be ready for distribution some time this month. This will be the third edition; the title will be "Apple Growing." Applications for this bulletin will be filed and copies mailed as soon as available.

Summer Field Meeting.

The annual summer field meeting of the Board will be held at the C. I. Hood Farm, Lowell, Mass., on Friday, June 21, 1912. Morning and afternoon sessions will be held. A dem-

onstration of the ideal dairy cow and of the profitable hog will be given by Prof. C. S. Plumb, Professor of Animal Husbandry, Ohio State University, Columbus, O. For field trials and demonstration of farm tools used in the preparation and cultivation of the soil, Mr. H. M. Howard of West Newton, Mass., has been secured. Similar trials of haying tools and machinery will be made under the direction of Mr. Evan F. Richardson of Millis, Mass.

The Hood Farm is well known for its herd of about three hundred Jersey cattle and large drove of Berkshire hogs. It is located three miles from the center of Lowell, just beyond the end of the car line. A complete program of the meeting may be had on application to the secretary of the State Board of Agriculture, State House, Boston, Mass.

Conference for Rural Social Workers.

The third annual conference for rural social workers, conducted by the Massachusetts Agricultural College, will be held at Amherst, Mass., June 28 to July 3, 1912. A feature of this conference will be a rural social service exhibit, at the drill hall of the college, showing in a graphic way what the various organizations are doing for the development of the rural community. Full particulars may be had by addressing Prof. Wm. D. Hurd, director of extension service, Massachusetts Agricultural College, Amherst, Mass.

Summary of Crop Conditions.

In the circular to correspondents, returnable May 24, the following questions were asked: —

1. How does the present season compare, agriculturally speaking, with a normal season?

2. What is the promise for pastures and mowings, and did fall seeding winter well?

3. How did the bloom of apples, pears, peaches, plums and small fruits compare with the bloom of former years, and has it suffered from frosts?

4. What insects appear to be doing the most damage in your locality?

5. How is planting progressing?

6. Is farm help scarce or plenty, and what proportion can be called good help?

7. What are the average wages paid farm help in your vicinity, with board? Without board?

8. Will there be any marked change in the acreage of the usual farm crops, particularly corn and potatoes, and do you note any new enterprises in the line of agriculture?

9. Are pheasants doing any appreciable damage in your vicinity? If so, what is the nature of this damage?

Returns were received from 121 correspondents, and from them the following summary has been compiled: —

The Season.

The month of May has been unusually cold and wet, making the season from ten days to two weeks late in almost all parts of the State. Following an exceedingly rainy April, the rains of the past month have filled the ground with water to such an extent that it has been impossible to even plow land which is the least bit low. On high, normally dry lands the ground is in excellent condition, but the temperature has been so cold, as a rule, that germination has been slow and uncertain, and growth has been very much retarded. It seems, so far, to have been a very unfavorable season except for grass land and fruits, although the man with an early farm should do well this year. The rain and cold continued up to the very last of the month.

Pastures and Mowings.

The copious and continued rains were just what the grass land was in need of after the severe droughts of the last two years, and, except where all burned up during these droughts, the meadows and pastures are in excellent condition. The ground, however, is now saturated, and water is standing on much of the low land, and a good stretch of warm, sunny weather is needed to hasten the growth which is so well started. Pastures promise better feed than for a number of years, and there probably will not be so much need for the

summer silo, although it is excellent insurance against possible drought later, and farmers who have suffered heavily by the recent droughts would do well to bear this in mind in planning for future seasons. Fall seeding, where done early, has wintered fairly well, although some is reported winterkilled.

Fruit Bloom.

The fruit bloom, although late, is generally reported to be about normal, with the exception of peaches, the buds of which were, as a whole, quite badly winterkilled. At the time of reporting, many correspondents in about all sections state that the bloom is not sufficiently advanced to definitely predict as to the crop, this denoting that the bloom is rather late. Small fruits evidently promise well. Although some damage was done by the excessive cold during the winter, there have been no frosts to do injury since the bloom started.

Insects.

While the cold, wet weather has been a hindrance to the normal development of vegetation, it has at the same time acted as a check to the multiplication and activity of most of the insect pests. In many sections the insect damage has not yet been sufficiently marked to cause any comment. In the eastern half of the State the gypsy and brown-tail moths are as usual doing much damage, and are continuing to extend their territory. By far the most damage at the present time, according to the reports, is being done by the tent caterpillar. Old wild cherry trees along walls and fences, which form a favorable and natural harbor for these pests, should be destroyed. The San José scale is doing considerable damage, but is being more consistently combated each year; and the elm-leaf beetle and currant worm are also in evidence. Cutworm damage is reported, but not to such an extent as in 1911.

Planting.

Owing to the backward season and scarcity of help planting is much behind, some correspondents reporting that nothing but a few early vegetables had been put in at the

time of the report. Some consternation is felt for the corn crop, as it is feared that the continued rains will prevent the putting in of the seed, or that, if put in, it will rot in the ground. On high, ordinarily dry land germination has been good. Tobacco setting was begun in the Connecticut valley the last week of the month.

Farm Help and Wages.

Farm help is almost universally reported as very scarce, and the percentage of what may be called good help as very small. Much of the available help is of the foreign element, and demands constant supervision. The farmers who are establishing boarding houses, and who have sufficient work to employ "year-round" help, are eliminating the labor problem to some degree. Wages seem to be advancing all the time. The average pay, with board, appears to be from $25 to $30 per month; without board wages run from $35 to $45 by the month; $1.75 to $2 for day help, or 20 cents an hour.

Acreage of Farm Crops.

Owing to the prevailing high prices of both corn and potatoes there evidently will be a slight increase in the acreage of both this year, provided the weather will permit. It is hoped that more and more attention will be paid to the legumes. Nitrogen is the highest priced element in our fertilizers, and every farmer should utilize nature's method of securing the free nitrogen of the air by growing the clovers, alfalfa or other leguminous crops to a greater degree. The awakening interest in fruit growing, stimulated by the two New England Fruit Shows, is in evidence in the reports of the establishment of new orchards and the renovating of old ones. The tendency in the middle western counties seems to be toward a larger acreage of onions.

Pheasants.

In general the reports would seem to show that the damage in the State by pheasants is very little, but on analyzing these reports we find that in Essex County, where the pheasants

are most numerous, the reports of damage are more pronounced, while locally in Middlesex, and in one or two instances in Worcester County, they are reported as doing damage by pulling corn and digging up peas. It would seem from the reports that, while these birds are not as yet plenty enough to do much damage in most sections, they will, where numerous, do a good deal of damage, especially in the fall, to the ripening corn, and in the spring by digging up seed and pulling young shoots.

NOTES OF CORRESPONDENTS.

[Returned to us May 24.]

BERKSHIRE COUNTY.

New Marlborough (E. W. Rhoades). — The season was wet and cold up to about the 22d. Meadows and pastures seem to be in fine condition, and fall seeding has wintered well and is also in good condition. The cherries, apples and plums are blooming full. Tent caterpillars are plentiful in some orchards. Planting hardly commenced, as the ground is still very wet and cold. Farm laborers are none too plenty. Wages are about $25 per month with board, or $1.50 per day without board. There will be no marked change in the acreage of staple farm crops. There are no pheasants here.

Stockbridge (F. A. Palmer). — The season so far has been cold, wet and late. There is fine promise for pastures and mowing. There has been a bloom of about 80 per cent of fruits and small fruits; no frost. Planting is progressing very slowly, on account of the cold wet weather. Farm help is scarce, and good help still scarcer. Wages average about $32 per month with board, or about $48 per month without board. Acreage of farm crops about as usual. New apple orchards being established. Pheasants doing no damage; glad to see them. The world was not all destined to be a desert. Old apple orchards are being renovated and put into condition.

West Stockbridge (J. S. Moore). — The present season compares unfavorably, being a very discouraging one so far, owing to the cold and wet. Dairymen look with smiling faces upon the pastures and mowing, which are much above the average. Fall seeding wintered well. Apple, pear, plum and cherry trees now in full bloom. No frost as yet to do injury. Very few insects so far, owing to cold weather and undeveloped vegetation. Planting is progressing fairly well for the season. Farm help is very scarce and of poor quality; perhaps 15 or 20 per cent might be called fair. Wages average from $20 to $25 per month with board, or $1.50 to $1.75 per day without board. There will be more potatoes and corn planted this year than for some time. A few farmers are going into poultry raising more extensively. Pheasants are not

plenty enough to do any damage. There has been some complaint of the elm-leaf beetle and the chestnut blight, but not enough so that any steps have been taken to protect the trees.

Richmond (Timothy B. Salmon). — The season is somewhat later than normal and looks rather bad for farmers at the present time. Mowings and pastures are looking very good, and fall seeding came through the winter very well. The bloom of fruits is about normal. There have been no late frosts. The tent caterpillar is most in evidence at the present time. Farm work is very late; several farmers have not sown their oats or begun to plow for corn. Farm help is very scarce, and only about one-quarter can be termed good help. The average wages are $20 to $24 per month with board, or $1.75 to $2 per day without board. The acreage of general farm crops will be about as usual. Pheasants are doing no damage in this vicinity.

Washington (E. H. Eames). — The season here I should say is about three or four weeks late. Pastures and mowings promise better than for two or three years past. Fall seeding came through the winter well. Fruit bloom is late, and it is hard to tell what the prospect is at present. Insects are doing very little damage as yet. Planting is progressing very slowly and is nearly a month late. There is no farm help to be had at any price.

Peru (F. G. Creamer). — The season is quite late. Pastures look well. There is no insect damage as yet. Planting is very backward on account of the late spring. Farm help is scarce. Wages average $25 per month with board, or about $1.75 per day without board. The acreage of general farm crops will be about equal to that of former years. There has been no damage from pheasants to my knowledge.

Windsor (Harry A. Ford). — The season here is ten days late. Pastures and mowings never looked better, but last year's seeding did not winter very well. None of the fruits have blossomed yet. There seems to be very little insect damage. Planting is progressing very slowly, owing to the excessive wet and rain. Help is very scarce, and averages about $25 per month with board, or $1.75 a day without board. There has been no damage from pheasants.

Cheshire (L. J. Northup). — The season here is very backward. The promise for pastures and mowings never looked better, to my recollection. It is too early to make a full report on apples, pears and other fruits. Most insects have not yet made their appearance, although the tent caterpillar is doing some damage. Potatoes are being planted; no corn as yet, owing to the wet weather. Farm help is even scarcer than usual, and not very good at that. Wages average about $25 with board, and $35 when board is not furnished. There will be slightly more potatoes than usual

hereabouts. There has been no damage by pheasants to my knowledge.

Williamstown (S. A. Hickox). — The season is very wet, cold and late. Grass, meadows and pastures are looking fine, and fall seeding wintered well. Apples bloomed abundantly, and pears, peaches and plums promise well. Tent caterpillars are doing some damage. Planting is progressing very slowly, on account of the excessive rains. The outlook is that corn and oats cannot be planted in season, as the water stands on the ground in many localities. Farm help is scarce, and about one-third of this can be called good help. The wages here average about $25 to $30 with board, and $35 to $50 without board. There has been no damage in this section by pheasants.

FRANKLIN COUNTY.

Colrain (W. H. Davenport). — The season is later than normal but with good promise for fruits. Pastures and mowings are looking well, and fall seeding came through the winter in good shape. Fruit bloom was late but good, with no frost injury so far. Tent caterpillars very plentiful. Planting is progressing very slowly, there being too much rain for garden and field crops. Help is very scarce, but of fair quality; very little permanent help; $1.75 to $2 per day for transient help without board. The orchard area shows an increase. Pheasants are doing no damage. Never before saw help so scarce or wages so high. A big construction company near here, paying $6 a day for man and team, is doubtless partially responsible.

Leyden (Frank R. Foster). — The season seems to be somewhat later than usual. Pastures and mowings look fine. Fruit bloom is normal, with no frost. Planting is progressing slowly on account of wet weather. Good help is always scarce, averaging $25 to $30 per month with board, and $1.75 per day without board. The acreage of farm crops will be about as usual. Have seen no pheasants here.

Bernardston (R. H. Cushman). — The season is cold and late. Pastures and mowing seldom in better condition than now, and very little fall seeding winterkilled. A very full fruit bloom, with no frost to date. Tent caterpillars doing the most damage. Less than half of potato crop planted. Little or no corn in yet. Farm help scarce; a fair proportion of help can be called good. Wages average $20 to $25 per month with board, and $1.25 to $1.75 per day without board. Full acreage of potatoes will be planted. Have no pheasants here so far as I know.

Gill (Frank F. Stoughton). — The season is very late and wet for planting. It has been an excellent one for grass and pastures.

Fall seeding came through very well. Fruit bloom is good. Very little insect damage as yet. Farm help very scarce. So far as I am aware there are no pheasants here.

Erving (Chas. F. Clark). — The season is a little later than normal. Pastures and mowings look very promising, and fall seeding wintered well. There is an average fruit bloom, which has not suffered from frost as yet. There has been no insect damage to speak of as yet. Planting is progressing slowly. Farm help scarce, and about one-half can be termed good help. Wages average $25 per month with board, or $1.75 per day without board. The acreage of general farm crops will be about the same as usual and no new enterprises are in evidence. Pheasants are doing no damage.

Wendell (M. B. Plumb). — The season is the most backward one for forty years to my knowledge. Fall seeding, mowings and pastures never were better at this time of year. Fruit bloom about normal. There seems to be very little insect damage at present. The ground is too wet for planting. No corn or potatoes in the ground as yet in this section. Farm help is scarce, and good help hard to obtain. Wages average $1.50 to $1.75 per day with board, and $2 per day without board. Weather permitting, a larger acreage of corn and potatoes will be planted than in former years. No pheasants in this locality.

Conway (L. T. Hopkins). — The season is cold and very wet, with so much rain that the land is not in fit condition to work. Pastures and mowings look well, and fall seeding fine. The bloom of apples, pears, plums and cherries about normal for an even year; blackberries, raspberries and grapes not in bloom yet; no frosts. No insects as yet. Planting backward, owing to cold and wet. Help can be obtained, and most of it is fairly good. Wages average $25 per month with board, and $25 to $40 per month without board. There will be a slight increase in potato acreage. No pheasants here.

Sunderland (Geo. P. Smith). — The season here is late and cold, with an excess of moisture. Good promise for pastures and mowing. Fall seeding wintered well. All fruit bloom moderate and generally below normal. Insects are not numerous at this time. Planting is well along for corn, although some fields are yet too wet. Tobacco setting begins next week. Help not so plenty as last year; 50 to 60 per cent may be called good. Wages average $25 per month with board, and $40 without board. There will be an increase in the acreage of onions. There will be over 60 acres of shade-grown tobacco this year, more than twice last year's acreage; somewhat less corn and grass, and a slight decline in the dairy industry here. No pheasants in this vicinity.

New Salem (Daniel Ballard). — The season is cold, wet and backward. Pastures and mowings are very promising at present,

and fall seeding wintered well. Very heavy fruit bloom. Tent caterpillars are plenty. There is seldom so little planting done at this date. Much of the land is too wet to work. Farm help is scarce; probably three-quarters is reasonably good. Wages with board average $20 to 26, without board $1.75 to $2 per day. There will be no marked change in the acreage of the staple crops. Have heard of no damage by pheasants.

HAMPSHIRE COUNTY.

Cummington (W. A. Farwell). — The season is very backward, at least ten days behind the normal. Pastures and mowings look fine, and fall seeding wintered well. The fruit bloom compares favorably with that of former years, and there has been no frost to injure it. Borers seem to be doing most damage. Owing to the wet ground, planting is progressing very slowly. Help is very scarce, and not more than one-third of it is good help. Wages $25 per month with board, and $40 without board. There will be an increase in the acreage of corn and potatoes, the present high price of both being the cause. There has been no damage by pheasants hereabouts.

Middlefield (J. T. Bryan). — The season here is two weeks late, owing to rainy weather. Pastures and mowings are in excellent condition. There has been a full fruit bloom, with no injury from frost. There has been no insect damage as yet. Planting progressing very slowly. No corn planted at this writing. Farm help is scarce, and good help hard to get at any price. The average wages seem to be about $25 per month with board, and $1.75 per day without board. More corn than usual will be planted this year. There has been no damage by pheasants.

Chesterfield (Horatio Bisbee). — The season is very cold and backward, with much rain. Our land is full of water. Grass is looking well in pastures, but all of last year's seeding is not doing well. Mowings very promising. Fruit trees not yet in bloom and insects not yet out. Hardly any planting done as yet. Farm help is very scarce, all being native help; some large farms have no help. Wages average $20 to $22 per month with board, or $1.50 per day for transient help. There will be no marked change in acreage of the principal farm crops. We know of no damage done by pheasants.

North Hadley (H. C. Russell). — The spring so far has been late and cold. The bloom of apple trees is unusually heavy and indications point to a full crop. No frost as yet. Currant worms and tent caterpillars lead the bug procession. Frequent rains have retarded spring work, and planting is late and progressing very slowly. Farm help available in about the usual supply, and wages

are about the same as last year, ranging from $22 to $25 per month with board, and $1.50 to $1.75 per day without board. There is quite an increase in the acreage of onions, but corn and potatoes will be planted about as usual.

Amherst (Wm. P. Brooks). — The season is backward on account of very frequent and abundant rains. Promise for pastures and mowings excellent, but fall seeding was much injured where a little late and on heavy soil. Apple bloom uneven and below normal; pears normal; plums (trees) in places winterkilled; peaches light; small fruit about normal, but strawberries late. Have heard some complaint of cutworms; currant worms and elm-leaf beetle doing damage. Planting progressing slowly, owing to bad weather and scarcity of labor. Help scarce; hardly one-fourth good in the sense of ability to go ahead. Wages average $28 to $30 per month with board, and $1.75 per day without board, in the onion district. Should say there will be a decrease in the acreage of corn and potatoes and an increase in onions. To my knowledge there has been no damage from pheasants.

Greenwich (Walter H. Glazier). — Season later than usual, cold and wet thus far. Pastures, mowing and fall seedings all looking well. Good bloom on apple trees. No injury from frost to date. A few brown-tail moths have been found in this town. Planting is later than usual. Help is very scarce, it being almost impossible to hire a man or team to do farm work this spring. Wages run from $1.75 to $2 per day without board. There will be no marked change in the acreage of farm crops. Pheasants are doing no appreciable damage.

Belchertown (Almon L. Pratt). — Season is two weeks late. Pastures and mowings look well, and fall seeding came through the winter in good shape. Apple bloom about normal; pears, peaches and plums very light. Insects doing very little damage at present. Planting is progressing very slowly. Farm help is very scarce, about one-half being good help. Wages are about $25 per month with board, and $1.50 per day without board. There will be more ensilage corn than usual this year. No damage done in this vicinity by pheasants.

South Hadley Falls (W. F. Person). — Mowings look very good in this section, and fall seeding is also in good condition. Apple bloom light as yet; cherry bloom full. There seem to be no insects to speak of at present. Planting is progressing very slowly, as the ground is wet and cold. Farm help scarce, and about one-half good help. Wages average $25 per month with board, and about $1.75 per day without board. There will be no marked change in the acreage of farm crops and no new agricultural enterprises are apparent. Have heard of no damage by pheasants.

Southampton (C. B. Lyman). — The season is later than normal and is cold and wet. Pastures and mowings promise well. Fall seeding wintered in good shape. The bloom of fruit trees was about as usual, with no frost. Have not seen any insects; they are waiting for a warm day. Planting is progressing very slowly, many fields being too wet to cultivate. All farm work is much later than the average season. Farm help scarce and poor. Wages average $18 to $22 per month with board, or $1.50 to $1.75 per day without board. Acreage of farm crops will be about the same as usual. There are no pheasants here. Grain and feed are almost out of reach, and with help scarce and poor, and wages high, we try not to be blue, but hope for a better report next time.

HAMPDEN COUNTY.

Blandford (Enos W. Boise). — The season is backward, cold and wet. Mowings and pastures are in fine condition, and fall seeding as well. All fruit trees show a heavy bloom. No damage from frost. Tent caterpillars very plenty and are being destroyed. Little planting done, as the soil is so wet and cold. Help is scarce, and not one-quarter can be called good help. Wages average $30 per month with board, or $2 per day without board. Farmers hope to put in the usual acreage of crops, but the weather is discouraging. Pheasants not doing any damage; we wish there were more here. Rabbits, being protected, are becoming a pest; doing much damage to fruit trees.

Russell (E. D. Parks). — The present season compares favorably with a normal season, except that it is somewhat backward. Pastures and mowings are in excellent condition, grass being about the only thing that is growing at all. Fruit bloom about average. There has been but little insect damage as yet. Farmers are just beginning to plant. Help is scarce, and about one-half is good. Wages are about $25 per month with board, and $1.75 to $2 per day without board. The acreage of farm crops is about the same as usual. No damage from pheasants recorded in this section.

Chicopee (E. L. Shaw). — The season is wet, cold and late for all crops except grass and grain. Pastures and mowings are looking fine, and fall seeding wintered well. Apple bloom normal; pears and peaches few; plums full and berries full. No frost as yet. Insects inactive so far. Planting is progressing very slowly on account of rain and cold. Farm help is very scarce, and very little can be called good. Wages with board run from $25 up; without board, $1.50 to $1.75 per day. The acreage of potatoes and corn will be smaller this year than usual. Farms are being

taken up for building purposes in this vicinity. There are not enough pheasants here to do any marked damage.

Ludlow (Henry M. Bliss). — The season has been cold and backward, with an excess of rain. Pastures and mowing promise a good crop. Fall seeding was more or less winterkilled. The fruit bloom in general was about one-half normal. Planting is progressing slowly. Help is scarce, and 70 per cent may be called good help. Wages average $20 to $25 per month with board, and $1.75 to $2 per day without board. There will be no marked change in the acreage of the principal farm crops. Pheasants are causing no damage here.

Palmer (O. P. Allen). — The season is later than usual, with very little warm weather. Abundance of rain has given grass a good start, and fall seeding is in good condition. The fruit bloom has been very full, with the exception of pears. Very few insects are active as yet. Very little planting has been done. Help is rather scarce, with a large proportion of good help. Wages are about $18 per month with board, or $1.50 per day without board. There will be no marked change in the area planted to the usual farm crops. No damage is reported from pheasants in this town.

West Springfield (N. T. Smith). — The season is some two weeks late on account of cold, wet weather. Pastures and mowings are unusually promising. What little fall seeding was done wintered well. Apple bloom was about 40 per cent, pears very light, peaches none, cherries and plums full, strawberries coming into bloom. The elm-leaf beetle has begun work; cutworms are doing some damage, but they are not so bad as in 1911. Planting is progressing slowly, although much land has been too wet to handle. Help is very scarce, and a very small per cent of this is competent to do good work alone. Wages range from $20 to $30 per month with board, and $1.50 to $1.75 per day without board. About the usual acreage of corn and potatoes will be planted. There are no pheasants in this town. Quite a large amount of farm land in this town has been bought by real estate boomers, cut up into building lots and sold at auction.

Southwick (L. A. Fowler). — The season here is late. Promise for pastures and mowings is good, and fall seeding wintered well. Most fruit trees bloomed well, especially apples. No insects are doing damage at present, although cutworms and angleworms have been very troublesome in the beds. Planting is rather late. There has been sufficient help so far, although the proportion of good help is small. Wages average $20 to $25 per month with board, and $1.50 to $1.75 per day without board. The acreage of corn and potatoes will be larger than usual. Pheasants are doing no damage here to speak of.

Agawam (J. G. Burt). — The present season is about the same as the last two or three years. The promise for pastures and mowings is good, but fall seeding winterkilled badly. The bloom of trees is light. We have had no frost. There has been but little insect damage thus far to my knowledge. Owing to the wet and cold, planting is progressing slowly. Good help is scarce; there is plenty of cheap help. Wages run from $28 to $30 per month with board, and about $1.75 per day without board. There will be somewhat more corn than usual this year. Pheasants are doing no damage. We wish there were more.

Hampden (John N. Isham). — The present season compares well with a good average. Pastures and mowings are in excellent condition. Most fall seeding is doing well. Peaches are mostly winterkilled; other fruit trees blossomed full. There has been no frost. Planting has been delayed by frequent rains. Some potatoes are in the ground, but no corn is planted as yet. Farm help is scarce, and about one-half of it can be called good. The wages paid are about $1.50 per day of nine hours with board, and without board $35 per month, with a garden. There is not much change in the general farm crops as compared with other years.

WORCESTER COUNTY.

Royalston (C. A. Stimson). — The weather this spring has been cold, wet and backward. The promise for pastures and mowings is exceptionally good. Fall seeding was somewhat winterkilled. There was a full bloom of all fruit except peaches, of which there are not many grown here. Tent caterpillars are doing more damage than any other insect. There has not been very much done in the planting line. Farm help is scarce, about one-quarter of it being good help. With board, wages are about $25 per month, or $40 without board. There will be no marked change in the acreage of the general farm crops. Pheasants are doing no noticeable damage.

Ashburnham (E. D. Gibson). — The season is backward and the ground has been very cold and wet. Pastures and mowings are in fine condition, and fall seeding is in good shape. All fruits are blossoming well, even peaches. No insect damage except some tent caterpillars and brown-tail moths. Planting is way behind. Good help is very scarce, and any kind of help is none too plenty. Wages are from $25 to $30 per month with board, or $1.75 per day without board. There will be no great change in the acreage of the main farm crops this season. Pheasants are doing no noticeable damage.

Templeton (Lucien Gove). — Although this season is better than the last two years, it is rather wet and cool. Pastures and fields

are in good condition. Fall seeding generally wintered well. Apples showed a full average bloom, pears light, plums quite light and small fruits full of bloom. There has been no frost injury. Peaches are not raised here. The season has been unfavorable to the development of any considerable number of insect pests. Planting is very much behind. No particular change in quantity or quality of farm help. Wages run from $18 to $30 per month with board, or $1.50 to $2 per day without board. There will be a slight increase in the acreage of corn in this vicinity this season. Pheasants are not plenty enough so that any damage is noticed.

Fitchburg (Dr. Jabez Fisher). — The fruit bloom this season is the exact average in date of the past fifty-six years. Everything has wintered well. Grass lands and pastures looking unusually fine. The bloom is generally a full one, especially of apples; few peaches. No insects have put in an appearance as yet, except a few tent caterpillars. The planting is late, owing to lack of sunshine. No superabundance of farm help, especially of the best grade. Wages with board $20 per month, without board $1.50 to $1.75 per day. There is no marked change in the acreage to be devoted to the leading farm crops. No damage from pheasants observed in this locality.

Harvard (John S. Preston). — Things look favorable at the present time for a good season. Pastures, mowings and fall seedings looking very well indeed. A very heavy fruit bloom in this section. No damage from frost so far. Brown-tail moths, gypsy moths and tent caterpillars are very numerous. Planting is behindhand, owing to excessive rain. Good help is growing more scarce every year, and it is hard to get help of any kind. Wages are about $25 per month with board, $1.75 to $2 per day without board. The acreage of potatoes will probably be larger this year than usual, and several parties are considering the establishment of apple orchards. I do not hear of any damage from pheasants.

Petersham (B. W. Spooner). — The present season is way behind normal and the ground is too wet to cultivate. Mowings and pastures are much in advance of the normal season. All fruit trees are in full blossom. No damage from frost. No complaints as yet of any damage by insects. Nothing has been planted at this date except a few early vegetables. Help is very scarce, and a very small proportion is reliable. Wages are about $25 per month with board, or $1.75 to $2 for day hands. The acreage of staple crops will be about the same as usual. Do not hear of any damage by pheasants.

Hubbardston (Chas. C. Colby). — It has been cold and very wet, making farm operations very late. Mowings and pastures all looking fine and promise good return. The apple bloom is much

below the average. Tent caterpillars are unusually plenty. At this writing very little planting has been done. Farm help is very hard to get, and only a small percentage can be called reliable. Wages with board $1.50 to $1.75 per day, without board $1.50 to $2.25. No substantial change in the acreage of the principal crops. No damage reported from pheasants.

Sterling Junction (Henry S. Sawyer). — The season is very backward on account of wet weather. Pastures and mowings promise good feed and a good crop of hay. Fall seeding is in good shape. A good bloom of apples, peaches, plums and small fruits is the rule. Pears rather light in some localities. Brown-tail moths and tent caterpillars are doing the more notable damage. Planting is late. Help is scarce, and not one-half can be termed good. Wages are about $20 per month with board, or $2 per day without board. There will be a larger acreage of potatoes in this vicinity. Pheasants are doing considerable damage; they pull up more corn than the crows.

Oakham (Jesse Allen). — It has been cold, backward and wet this spring. Pastures and mowings look well, as does most of the fall seeding. A full bloom of all fruits, with no frost. There have been no insects as yet to do damage. Planting is progressing very slowly. What help can be obtained is unreliable for the most part. Wages range from $20 with board to $30 without board. The general acreage of farm crops will be about the same as in previous years. Pheasants are doing no damage here.

Northborough (John K. Mills). — The season here is about ten days late. New seeded fields are coming along nicely and pastures and mowing look fine. There is but about one-half bloom of all fruits. No frosts to speak of. Planting is progressing very slowly, owing to so much wet weather. Help is not very plenty, and is of rather indifferent quality. The average wages are about $25 per month with board, or $2 for a day of nine hours without board. There is no marked change in the acreage of the usual farm crops. Do not know of any damage being done by pheasants.

Worcester (H. R. Kinney). — There has been so much wet weather that farm work is much behind on moist land. Grass is in good condition, both fields and pasture. The fruit bloom has been full, but the wet weather has damaged it to some extent. There are a good many tent caterpillars, but it has been too cold for most insects so far. So far as I have seen planting is progressing very slowly; what seed has been planted has come up fairly well, but both seedlings and set plants are making a slow growth. There seems to be plenty of medium to poor help. Wages run from $20 to $30 per month with board, or $1 to $1.65 per day without board. I have not heard of any damage by pheasants.

Leicester (H. H. Kingsbury). — The season is rather below normal in general. Pastures and mowings are fully up to normal conditions and fall seedings of grass and grain are in good shape. Apples, pears, plums and small fruits have made a large bloom. No peach bloom to speak of. No frosts. Tent caterpillars very numerous. Very little planting done at this date, a few potatoes and peas on especially dry, early land. There is no unusual scarcity of help, about 10 per cent being good help. There is no marked change in wages or in the price of board. There will be more potatoes than usual. There is a tendency toward the establishing of apple orchards, cropping the ground between the rows. No pheasants have been seen in this vicinity.

Brookfield (Frank E. Prouty). — The season is late. Pastures and mowings look well and fall seeding wintered well. About the usual bloom of apples; pears a light bloom; peaches quite light, many trees winterkilled; plums and small fruits about the same as in former years. No frost as yet. Planting coming on slowly on account of wet weather. There seems to be help enough so far. Wages $20 per month with board, and about $30 without board. No marked change in the area of farm crops. No damage noticed by pheasants as yet.

Charlton (Loren E. Stevens). — The season is very late. Pastures and mowings in good condition and fall seeding doing well. Trees blossomed full, giving promise of much fruit. All planting is late on account of much rainy weather. All help is scarce. Wages average $25 per month with board, and $1.75 per day without board. No new agricultural enterprises in evidence. No noticeable damage by pheasants.

Uxbridge (Everett D. Robinson). — It has been rather cold and wet this spring. Pastures and mowings look fine and fall seeding has wintered well. Apple bloom was better than last year; other fruits the same, except pears, which are not quite as heavy. The elm-leaf beetle, San José scale and codling moth are doing more or less serious damage. Planting is progressing rather slowly, on account of wet weather. Help is scarce, and about 10 per cent is good help. Wages run from $20 to $25 per month with board, and $1.50 to $2 per day without board. It is rumored that a large canning factory for sweet corn will be opened at Hopkinton. It is some distance from this town, and it seems as if there were a good chance for many such factories in this State. I have not heard of any damage by pheasants.

MIDDLESEX COUNTY.

Dunstable (A. J. Gilson). — The season is very backward in this section. Pastures are in good condition and mowings promise well. Fall seeding wintered fairly well. As a whole, there has been a light bloom of fruit trees and a full bloom of berries and small fruits. No frosts. The tent caterpillar is here in abundance, but no other insects are doing any appreciable damage. Very little planting has been done to date. Farm help is not very plenty, but what there is is very good. Wages average about $25 per month with board, and $1.75 per day without board. There will be no marked changes in the acreage of the leading crops. No damage from pheasants has been reported.

Billerica (E. F. Dickinson). — The season has been very wet and is about two weeks late for cultivated crops. The promise for pastures and mowings, where the sward was vigorous, was never better. Fall seeding wintered very well. The bloom of apples was about one-half, plums fair, peaches light and pears a failure; small fruits showed an average bloom. No frosts. The San José scale, the brown-tail moth and the tent caterpillar have been most in evidence so far this spring. Planting is progressing very slowly, much land being too wet to work as yet. No over supply of help. Wages average about $20 per month with board, or $1.75 per day without board. Some tendency toward the establishment of young orchards is in evidence. Have seen no pheasants yet. The season is generally late, but a hopeful feeling prevails among farmers here and liberal planting is planned.

Littleton (Geo. W. Sanderson). — Vegetable growth in general delayed on account of excessive rains. There is good promise for pastures and mowings, and fall seedings wintered as well as the average. Not as heavy a fruit bloom as in 1911, but early fruits promise well. No frost damage. The brown-tail and gypsy moths are doing more damage than any other insects in this locality. Planting is backward. Good farm help is scarce. Wages range from $28 per month with board to $45 without board. There will be a larger acreage of corn than usual this season, and there seems to be an increased interest in apple culture in this vicinity. The dairy interests do not seem to be as prominent as formerly, as many are turning their attention to orcharding. I have heard of no damage by pheasants.

Stow (Geo. W. Bradley). — The season is about two weeks late. Prospects are very favorable for a large hay crop. Fall seedings are looking fine. There is about two-thirds of an average fruit bloom, and no frost damage. Tent caterpillars and brown-tail moths

are doing more damage than any other insects at the present time. Planting is very backward, much plowing being unfinished at this writing. Farm help is very scarce, with but little good help available. Wages run from $12 to $25 per month with board, and average from $1.75 to $2 per day without board. There will be more corn than usual this year. Have noticed no damage from pheasants.

Concord (Wm. H. Hunt). — The ground is wet with frequent rains but planting is up to the average. Fall seeding has wintered well, and pastures and mowings promise well. The bloom of apples is full, of pears light, of peaches very light, and other fruits about an average bloom. No late frosts. Cutworms and tent caterpillars are quite plenty. Planting on high land has progressed well but on low land it is somewhat backward. It is difficult to get good help. Wages, $25 per month with board, and $45 without board; the former varies from $20 to $30, with the quality. Rather more potatoes have been planted than usual in this section. No complaints of damage by pheasants.

Lexington (Howard M. Munroe). — The season is very backward, wet and cold. Pastures and mowings in fine condition; fall seeding wintered well on high lands but suffered some loss on low lands. Fruit bloom has not suffered from frost but at least half of the peach buds were winterkilled. Tent caterpillars, brown-tail and gypsy moths, cutworms and lice on the young apple trees are doing much damage. Planting is far behind, and vegetation is making a very slow growth. Good help is harder to get every year, perhaps one out of five may be called good. Wages about $27 per month with board, and $1.40 per day without board. Pheasants are doing damage to the corn crop. It is almost impossible to save seed corn in perfect condition, as almost every ear is pecked and much is stripped to the cob. Have counted as many as ten in a piece of ripening field corn of not over one acre. The pheasants also scratch up the seed after it is planted, not waiting for it to sprout, for they seem to know just where it is and scratch it out like a hen.

Stoneham (J. E. Wiley). — The season is backward. Pastures and mowings look very good, but fall seeding did not winter very well. The fruit bloom in general has been rather light, and there have been no late frosts. The damage by insects to date has been insignificant. Planting is progressing slowly. There is not enough help employed to give an estimate. There will be no marked change in the acreage of the principal farm crops. I have heard of no damage done by pheasants.

South Sudbury (E. W. Goodnow). — The season is backward. Pastures and mowings look very promising, and fall seedings have wintered very well. There is a good bloom on apples, pears and

plums which has not suffered from frosts. Tent caterpillars, elm-leaf beetles and brown-tail moths are doing the greatest damage at present. Farm help is scarce, and only about one-half can be called good help. Wages average about $20 to $25 per month with board, and $35 to $40 without board. More corn than usual will be planted this season. Pheasants have not yet done any damage.

Newton (G. L. Marcy). — It has been cold, wet and backward this season so far. The weather has been favorable for mowings, pastures and for fall seedings. There is a light fruit bloom, and no late frosts. Very little insect activity as yet. Planting goes on very slowly. Good help scarce, but poor help is plenty. Wages, without board, $2 per day. There will be no noticeable change in the acreage of farm crops, and we note no new agricultural enterprises hereabouts.

Hopkinton (W. V. Thompson). — More rain and less heat than in a normal season. Grass and pastures looking fine. Apple bloom full, pears very light, peaches very few and plums light. Tent caterpillars and brown-tail moths are much in evidence. Not much planting done yet. Help scarce. Wages about 20 cents per hour. Acreage of principal crops about the same as usual. A canning factory has been put up. No damage by pheasants reported.

ESSEX COUNTY.

Haverhill (Milton A. Corliss). — The season is very late and cold, on account of heavy rains. Pastures and mowings look better than normal, and fall seeding wintered comparatively well. Apples and plums blossomed well; pears and peaches will be a failure in this vicinity. No damage from frosts. Tent caterpillars are doing the most damage of any insect. Planting is nearly three weeks later than last year. Farm help is very scarce, and only about 20 per cent can be called good help. Wages average $24 to $28 per month with board, or $2 and upwards a day without board. The acreage of corn will be about normal, but there will not be as many potatoes as usual in this locality. Many apple trees have been set this spring and much interest has been taken in trimming and spraying old orchards. There has been an increase in the acreage of oats. Good hay sells for $27 per ton at this writing. Pheasants have done no noticeable damage.

Methuen (Frederick A. Russell). — The season compares favorably with a normal one. Pastures and mowings in excellent condition. Fall seeding looking very well indeed. Apple trees that did not fruit last year are blooming very freely; pears, peaches and plums light; strawberries looking well. No frost damage. Tent caterpillars are doing some damage. Planting progressing about

the same as usual, except on cold, wet lands. Farm help is rather scarce and wages are from $30 to $35 per month with board, or $1.50 to $2 per day without board. There will be very little change in the acreage of the staple farm crops this year. Have heard of no damage from pheasants as yet.

Rowley (D. H. O'Brien). — The season here is very late, cold and wet. The promise for pastures and mowings is very good. Very little fall seeding was done, owing to the high price of seed. The bloom of apples, pears and plums was heavy, but peaches were very light. No late frosts. Tent caterpillars doing some damage. Planting is progressing very slowly, owing to the backward weather. Help is scarce, and about 50 per cent is good help. The average paid here for help is $25 per month with board, and $1.75 per day without board. The acreage of corn this year will be larger than usual, but that of potatoes will be decreased. Pheasants are doing some damage by pulling corn and digging potatoes.

North Andover (Peter Holt). — The land is as yet too wet to handle and the weather is cold, wet and backward. Grass land is in fine shape, and fall seeding wintered very well. Apple bloom very uneven, fall apples looking well; peach bloom full and pear bloom light. No damage from frosts. The tent caterpillar is doing the greatest damage so far. Land is too wet to work, except on the very high, dry pieces. Help is scarce; the proportion of good help depends on the standard you fix; I see no good help. Wages are $25 per month with board, or $1.75 to $2 per day for transient help. Pheasants are quite plentiful; they pick up a large amount of grain, and come so near the buildings that they do some damage in gardens, eating peas and other seeds out of the ground.

Topsfield (B. P. Pike). — The spring has been cold, wet and backward. Pastures are good where not too badly burnt up last year. Mowings good where in good condition from last year, and fall seedings wintered well. Plums blossomed well; apples a fair bloom; peaches winterkilled. Tent caterpillars are doing quite a little damage. Planting is late. Help is scarce, and about 25 per cent is good help. Wages per month, with board, are from $25 to $30; without board, $40. There will be no marked change in the amount of land planted to the usual farm crops. Nothing has come up yet for the pheasants to harm.

Hamilton (Geo. R. Dodge). — The season is very backward and farm work much delayed by the cool, wet weather. Fall seeding went through the winter very well, and pastures and mowings look better than for several seasons past. There seems to be a normal bloom of all tree fruits except the peach; bush fruits and strawberries looking well. No damage from late frosts. The tent caterpillar seems to be doing more damage than usual in this locality.

Planting is progressing slowly and much corn ground yet remains to be seeded. Farm help in about the usual supply, mostly Polanders and Finlanders, and very good help. Wages average from $20 to $25 per month with board, and about $40 without board. There will be no marked changes in the usual farm crops this year. Have heard but one complaint of damage by pheasants and that was to early-planted peas.

NORFOLK COUNTY.

Cohasset (Ellery C. Bates). — The present season is about normal. Pastures and mowings are in good condition, and fall seeding wintered well. There has been a normal fruit bloom, with no late frosts. No insect damage at present. Planting is progressing very satisfactorily. Help is scarce, and about one-half of it can be called good. Wages in this vicinity range from $20 to $25 per month with board, and from $1.50 to $2 per day without board. There will be no marked change in the general acreage of farm crops this season. There has been no damage done by pheasants in the country around here.

Millis (E. F. Richardson). — The spring has been very cold and wet. The grass prospect is excellent, and fall seeding wintered in good shape. Fruit bloom as follows: apples abundant; pears small; peaches missing; small fruits good. The tent caterpillar and the San José scale seem to be doing more damage than any other insects. Planting is progressing slowly. Help is scarce, and about 50 per cent is what might be termed good help. Wages, $28 with board, and $50 without board. If the season permits there will be more corn and potatoes planted than previously. There has been no complaint of the destructiveness of the pheasants.

Franklin (C. M. Allen). — The cold and wet this season has put the farmer to his wits' end to know what to do next, and has put everything except grass and fruits way behind. The promise for pastures and mowings is very good. The bloom of apples and pears was good, and that of small fruits rather light; peach buds were winterkilled. Planting is slow and late. Help is scarce, and mostly no good; about one in a hundred can be called good. Wages vary with the individual farmers and with the quality of the help. The acreage of the staple crops will be about as usual. No pheasants here.

Stoughton (Chas. F. Curtis). — The season is about ten days late. Pastures and mowings show the effect of the past three years' droughts, and mowings need fertilizer or manure. Fall seeding, where done early, wintered well. The bloom seems to be rather scant, but with no frost damage as yet. Gypsy moths, brown-tail moths and tent caterpillars seem to be doing the worst damage here. Planting is behind that of a normal season. Farm help is

very scarce, and about 10 per cent is good. Wages average from $25 to $30 per month with board, and about $2 per day without. General farm crops will be planted in about the usual amounts this year. Have seen no pheasants.

BRISTOL COUNTY.

Easton (Wm. N. Howard). — The season is very late. The prospect for pastures and grass is excellent on uplands, but on low ground it has been damaged somewhat by too much water. The apple bloom was from 50 per cent to 75 per cent of a big apple year. Tent caterpillars seem to be doing the most damage so far, although there has not been enough planting done yet to get a good line on insect damage. Planting has gone ahead slowly up to the present time, owing to the excessive wet weather. There appears to be plenty of help so far which is well up to the average in quality. With board, wages average about $25 to $30 per month, and $1.50 to $2 per day without board. The corn area will be increased this year. No damage by pheasants.

Mansfield (E. Jasper Fisher). — It has been a very backward season so far. Pastures are in good condition and grass land looks well. Fall seeding came through in good shape. Apples, plums and cherries bloomed well; pears and small fruits not so well. The tent caterpillar is most in evidence at the present time. Planting is going ahead very slowly, owing to the backward weather. Farm help is scarce and poor. Wages average about $25 per month and found, and $1.50 to $1.75 per day when help board themselves. There will be more corn than usual planted this year. Very few pheasants and not any damage.

Attleborough (Isaac Alger). — This has been a good season so far. Pastures, mowings and fall seedings all looking fine. The fruit bloom has been about normal and no late frosts. No insects on deck yet. Planting is progressing fairly well. Help is fairly plenty, and is about average in quality. Wages run from $20 to $25 per month with board, and $30 to $40 when board is not provided. There will be about the usual acreage of potatoes this year, but there will be more corn than for some years. Not pheasants enough to do any appreciable damage.

Dighton (Howard C. Briggs). — The season is late. Pastures and mowings look very good. There is a light fruit bloom but no frosts. Brown-tail moths seem to be the worst insect so far. Planting is progressing very slowly. Help is scarce, and about 25 per cent may be called good. About $28 per month with board is paid here, or about $45 without board. There will be about the usual acreage of general farm crops planted this year.

Swansea (F. G. Arnold). — The season so far has been late and very wet. Pastures are fair, most meadows look well, and fall seeding wintered well. Fruit trees are just blooming and are not sufficiently advanced to make comparisons. No damage from frosts. The only insects much in evidence as yet are the tent caterpillars. Planting is progressing very slowly and is fully two weeks late. Farm help is scarce, and only about 25 per cent can be called good help. Wages are from $20 to $25 per month with board, or $36 to $40 when board is not furnished. There will be no marked change in the general acreage of the usual farm crops. We know of no damage from pheasants in this neighborhood.

Acushnet (Moses S. Douglass). — It has been cold and wet, and the season is two weeks late. Asparagus was not cut until May 10, which is two weeks later than last year. Meadows are in good condition, owing to the frequent and abundant rains; fall seeding wintered well. Apples and pears show a full bloom; peaches were winterkilled. It has been too cold for insects so far. Planting is about half done. Help is scarce, and about one-third may be called good help. Wages with board are about $25 per month, or $1.75 per day of nine hours without board. Farmers are planting largely of corn and potatoes, owing to the high price of both. No pheasants here.

PLYMOUTH COUNTY.

Hanover (Harrison L. House). — The season is rather late, on account of the unfavorable weather. Promise is good for grass land, and fall seeding is in good shape. The fruit bloom is about as usual for an "off year." No frosts to do any damage. Tent caterpillars are abundant, but are mostly on wild cherry trees, although a few are on the apples. Planting progressing slowly on account of frequent rains. Help is scarce, and mostly rather poor. Wages are from $25 to $30 per month with board, and $1.75 to $2 per day without board. Quite a number of fruit trees have been set out in this vicinity, but otherwise there will be the usual amount of farm crops put in. Very few pheasants and consequently no damage.

Brockton (Davis Copeland). — The present season is from two to three weeks late. The promise for pastures and mowings is fairly good, and fall seeding is in good shape. There is about an 80 per cent bloom of apples and pears. There has been no frost injury this spring. The tent caterpillar is doing the most evident damage. Owing to cold weather planting has gone ahead rather slowly. Good farm help is not very plenty. There will be rather a larger acreage of corn and potatoes this year than usual. Pheasants have done no noticeable damage.

Kingston (Geo. L. Churchill). — The present season is back-

ward, having been very cold and wet thus far. Fall seeding wintered well enough, but is not doing as well as it should. The fruit bloom is generally small, but has not suffered from late spring frosts. Tent caterpillars have done the most damage so far. Planting is behindhand. Help is scarce. Wages with board are about $25 per month, and $45 per month without board. There will be no marked change in the acreage of the usual farm crops. There has been no damage from pheasants in this section.

Carver (Jas. A. Vaughan). — There has been more rain than usual this spring. Promise for a good hay crop and for good summer feed in the pastures is excellent. The fruit bloom is about an average one, and there has been no frost damage this spring. Tent caterpillars are the only insects that are doing any appreciable damage at the present time. Planting is progressing slowly. There is but little help which knows how to do all kinds of farming; there are plenty of Portuguese and other foreigners for cranberry-bog work. About all the help here work by the day, and the pay averages about $1.65. There has been no damage by pheasants in this section.

Lakeville (Nathaniel G. Staples). — The season here is very backward, even more so than for a number of years. Pastures and mowings promise abundant growth, and fall seedings wintered very well. There is about a two-thirds bloom of fruit, except peaches, which the severe cold of the winter seems to have affected. The tent caterpillar seems to be doing more damage than any other one insect. Planting is about two weeks behind, and farm help is very scarce; about one-half of the help can be called good. Wages average about $25 per month with board, and $1.75 per day without board. There will be more corn and potatoes raised here this year than usual. Have not heard of any damage being done by pheasants.

Rochester (Geo. H. Randall). — The season is two weeks late, very wet and cold, and much land is too wet to plow. Grass and rye are very promising, and fall seeding wintered well. Apples, pears and plums showed a full average bloom, but peach buds were killed in most localities. Tent caterpillars and currant worms have been causing some damage where spraying has not been done. Planting is two to three weeks late on account of the excessive rains. Farm help is very scarce, and not more than one-half is first class. Wages range from $20 to $25 per month when board is included, and from $30 to $40 when the laborer finds his own board. The acreage of the staple farm crops will be slightly reduced this year over what it has been in past years. I hear no reports of damage by pheasants.

Mattapoisett (E. C. Stetson). — The season has been wet, cold

and backward. Pastures and mowings promise well, and fall seeding is in good shape. Fruit bloom is late and not up to the average. No frosts. The elm-leaf beetle and the tent caterpillar are most in evidence. Everything is being planted late. Help is not plenty, and neither is it extra good. Wages average about $20 to $25 per month with board, or $35 to $40 per month without board. The general acreage of farm crops will be about as usual. Pheasants are doing no damage here.

BARNSTABLE COUNTY.

Falmouth (D. R. Wicks). — The spring is two weeks later than normal, and is very cold and wet. Grass is the best crop here and bids fair for a heavy one. A little early to definitely tell as to fruit bloom. Pears are showing a fair bloom; peaches a poor one; summer apples full, and plums one-half. The tent caterpillar is the only insect noted; no currant worms yet. Planting is way behind. Some early vegetables are up, but growth is very slow. There seems to be plenty of foreign help, but no native; should say about one-half could be called fair. Wages, $25 per month with board, or $40 without board. There will be a little more corn planted in this vicinity than usual. There are no pheasants here to my knowledge.

Mashpee (W. F. Hammond). — The season here is later than common. Pastures and mowings are looking good. Fall seeding wintered well. Apples, pears, peaches and small fruits bloomed very fully; they have not been hurt by late frosts. The cutworm is very busy here. Planting has been delayed by the inclement weather. Farm help is quite plenty, and most of it is good. With board, help gets $1.25 per day, or $2 without board. There will be an increase in the acreage of both corn and potatoes. Have not heard of any damage by pheasants.

West Barnstable (John Bursley). — The season here is at least a week late and possibly more. Pastures and mowings are looking fine. A full fruit bloom and no damage from frosts as yet. Tent caterpillars are in evidence. Planting is generally late. Help is rather scarce, and about one-half is good. There will be no marked change in the acreage of the usual farm crops. Wages are about $30 per month with board, or 25 cents per hour without board. No damage by pheasants reported.

Dennis (Joshua Crowell). — The weather this spring has been unusually wet, cold and backward; as a whole, probably about one week late. Never saw mowings look better than at the present time. A full fruit bloom and no damage from frost at this writing. Tent caterpillars doing some damage. Planting is late. Help is rather

scarce, and we are paying about 20 cents per hour. There will be no particular change in the area planted to the more prominent farm crops. I am not aware that pheasants are doing any damage.

Truro (John B. Dyer). — The present season so far has been above the average for wet and cold. The promise for pastures and mowings is extra good, and fall seeding is in fine shape. There is not a large bloom of apples in this locality; pears are good. There have been no frosts this spring. It is rather early to tell about insect damage, but the tent caterpillar is the most prominent at present. Help is not very plenty; large boys are the chief help and are good as such boys go. We pay $15 to $20 per month with board for such boys; men get about 20 cents per hour. There will be no particular change in the acreage of corn and potatoes this year. Pheasants are doing no damage, but a few wild deer are a nuisance in mutilating young fruit trees.

DUKES COUNTY.

West Tisbury (Geo. Hunt Luce). — The season here is much later than usual. Pastures and mowings promise well, except where worms ate last year. The fruit bloom is much later than formerly. Tent caterpillars are doing more damage than any other insect. Planting is progressing very slowly. Farm help is rather scarce, about 25 per cent deserving the title of good help. Wages range from $20 to $25 per month with board, and from $35 to $40 without board. The acreage of the principal crops compares very favorably with other years. Pheasants are too few to do any substantial damage.

BULLETIN OF
MASSACHUSETTS BOARD OF AGRICULTURE.

PORK MAKING FOR MASSACHUSETTS FARMERS.

A long-neglected industry promises rich returns under modern methods.

DR. GEO. M. TWITCHELL, AUBURN, ME.

Among all the specific lines of farm work, whether cropping or breeding, none is more stable or certain to return a generous per cent, year by year, upon the outlay, than pork making, yet throughout Massachusetts no branch of agriculture is so much neglected.

Here and there single individuals, or corporations, have engaged in the business, but all the while we face the fact that the State does not produce pork products sufficient yearly for one week's supply for its own inhabitants.

What is true in Massachusetts holds throughout New England. All the while men are running here and there searching after some avenue into which energies may be directed and success insured.

We have passed out of the era of low prices for any meat product, and with our steadily increasing population there is no prospect of any permanent reduction below present standards. For these reasons it is perfectly safe to figure the industry upon the prices of 1911 and be certain that fluctuations will insure just as good an average, and probably better. With these fundamental facts recognized, surprise increases as one contemplates, on the one hand, the possible sure returns, and the almost total lack of recognition of the same by the rural inhabitant, on the other.

MODERN METHODS A NECESSITY.

The greatest stumbling block in the pathway of the average man who contemplates the possibilities of pork production is the old-fashioned pigsty. Habit is so exacting that its full force can hardly

be imagined. The pigpen must go, before pork making can become either a lucrative or even an attractive industry. It is one of the relics of olden times to which New England clings tenaciously. Pork may easily be made the cleanest, sweetest and most healthful of all the meat products. Naturally the hog is one of the neatest of animals, so that in judging the industry it must be from the viewpoint of the man who conforms to the demands and conditions of to-day.

Economic pork production hinges upon the utilization of forage crops, the pasturing of the herd and the cutting out of all purchased grain. The problem is, can this be made effective in actual practice as in the west? Here is the crux of the whole situation. Fortunately, we have the experience of a number sufficient to maintain the claim.

Methods of utilizing Forage Crops.

One acre in forage crops will provide all the food wanted by eight well-grown brood sows, and one-half acre in rutabaga turnips and mangels will supply the bulk of food for winter, until we approach farrowing time. Add to this clover hay and a minimum amount of grain and we have an ideal winter ration. How much grain will be demanded cannot be stated in pounds or bushels because of the individuality of the animals and difference in digestive and assimilative capacity. This grain should be corn chiefly, and experience will determine the amount required to supplement the roots and clover, the purpose being to keep each brood sow in healthy, growing condition. While good results will follow the pasturing of a herd on an acre sown to rape, clover and barley, at the rate of 3 pounds of dwarf Essex rape, 7 pounds of red clover and 1 bushel of barley, I am convinced that the plan outlined by Commissioner Huson of New York, and practiced yearly by him, is more economical and will insure better results.

The first is the plan followed at Elmwood farm, when I was in charge there, and which gave surprising returns. Mr. Huson divides this acre into three or four paddocks, with movable hurdles thirty inches high. In September he sows rye in one and turns onto that in early spring, where the shoats thrive wonderfully. By the time it is gone over, but not eaten too close, the paddock of rape, sown in early spring, as soon as the ground is warm, is ready. Then follows one of clover and then one of oats and peas. By the time these have been fairly eaten down the rye will have come again and matured a fair crop of grain, every kernel of which will be utilized. Naturally, the process of change from one paddock to another will be modified by the conditions, the best results obtaining when excessive growth is checked by changing from one to

another and each one watched to see that it is not eaten too close. Of course the amount of ground demanded will be determined by the number of hogs kept, but this process of supplying the most healthful and cheapest food possible is so simple that it must commend itself to every would-be pork maker. March pigs grown in this way should be ready for market in October, requiring only enough grain to be carried along steadily, and finally finished in short order for the early market. For this finishing, corn and pumpkins, grown alongside the paddocks, constitute the best and most economical food to be obtained, reducing cost of production and labor of feeding to the lowest dollar, while insuring a quality of product impossible to mature in close pens or with swill-fed animals. There is good evidence in support of the claim that one has but to establish himself in this industry, by some such plan as here outlined, freeing his stock entirely from the old-time methods of pigsty or barn-cellar growing, and advertising a healthy product made only on forage crops, in open pastures with home-grown grain, in order to insure a permanent market at advanced prices. The absolute purity and cleanliness of the product, and freedom from all possible taint of impure surroundings and stale swill feed, will attract buyers. It will be understood here as everywhere that an abundance of fresh water *must* be available at all times, and if possible it is best to equip a field in close proximity to a brook or within easy access of a water supply. In this way the labor item during the growing season is practically eliminated. The best cure for disease is prevention, and that will practically be insured by the plan here outlined. Disease lurks in filth or is carried in decayed food. Fresh air, sunshine and pure water are germ destroyers. But behind the problem of feeding lie some important factors, not one of which can be overlooked.

Type and Breed.

Too many start with or breed from immature sows. The hog of to-day bears but a slight resemblance to its early ancestors. The process of elimination and intensification of traits, form, growth, etc., coupled with the law of environment, has resulted in a creature radically different from the long-nosed rooter of years ago or the razorback of the south. To be a successful breeder one must enter fully into an appreciation of the changes resulting in what we see to-day, and be prepared to push the wall of opposing forces still further into the background. So tenacious is the law of reversion that there is demanded a firm grip and steady hand to insure improvement. The question of breeds is here as elsewhere secondary to type. The pork maker wants a pig which, given right conditions, will make from 175 to 225 pounds of dressed product in six months. First of all, we want the long-bodied, deep barreled,

strongly built sow, with a broad, intelligent face, a docile, quiet disposition, the ability to consume a large quantity of food and certainly to supply an abundance of milk for a litter of generous dimensions. Breeding White Chesters I found that some sows would produce 12 or more, at every litter, while own sisters brought but 7 or 8; also that these large producers would give 2 or 3 pigs or more, which, at four weeks, would weigh 25 pounds, with the balance following closely, while the best I could do with others was 18 or 19 pounds.

It takes a trial trip to gain this information, but a man has himself to blame if he gets a second dose. Blood alone does not insure type desired, though strains of each of the breeds have this well established. Here is where experience is the best teacher. Naturally, enthusiasm will center about the breed which pleases the eye, be it black or white, but profitable pork makers must never lose sight of the standard of utility which must always center in type adapted to purpose. Looking for special results, a specialized animal is demanded, one bred and built for rapid pork making. Brood sows which are worth using as mothers are worth keeping so long as they will produce. It is ruinous policy to change yearly. Keep a sow as long as she is rugged and productive. Surely no one can justify the use of a grade boar while he may succeed well with grade sows. In a boar look first of all to the character, type, production and disposition of his ancestors on both sides. Finding these to be satisfactory, what of the animal himself? Is he strong on his legs, compact rather than long in body, massive in shoulders, with good hams, and, above all, does he possess the shape and character of head wanted in the profitable meat maker? Did he come from a dam noted for large litters of strong, healthy pigs? After making the selection test him, and, if satisfactory, keep him as long as he is of service. Beyond that when the time comes to change be sure and get another of the same breed and still better in every essential. The trials, troubles and disappointments of would-be pork growers may very largely be traced to the use of immature sows or boars, or an almost total neglect of the laws of breeding in making selection. The single fact that one, or the other, is a Chester, Berkshire, Poland China or Yorkshire proves very little, simply for the reason that so many who breed what they term pure-bred stock, either fail to register same or neglect the essential principle of worth and cling to blood alone. On this rock thousands have gone down who aspired to be known as breeders. There is a blood inheritance, which, backed by individual merit is of transcendent value, and this alone will satisfy or recompense the breeder. No man looking for the dollars through cheap pork production can afford to mix breeds. Price in a boar bears slight

relation to value as a sire. Important as is breeding it must always be backed by good feeding, health and vigor being the goal one is seeking.

Care at Farrowing Time.

The evils and troubles of pork raising can, in the great majority of cases, be traced directly to want of proper food or care. Especially is this true at farrowing time. If, in every pen where brood sows are kept, there is a small box constantly supplied with 1 bushel of charcoal, ½ bushel of ashes, 1 peck of salt and 4 pounds of sulphur, mixed together, there will be little danger of trouble at this critical period.

Sows eat their pigs because of an unsatisfied craving, the result of unbalanced and improper rations. When the time comes to separate the brood sows and place them in pens, with guardrails all around, the time has also come to change the feed, and from now on middlings should form the bulk given, with some vegetables to keep the bowels in good condition. Not until close to farrowing should excess of sloppy food be given. If the sow has been handled gently all along she looks upon her care-taker as a friend. Not a day should pass without a visit to the pens and a few moments devoted to scratching her back. Then, when the little pigs come, she will not be disturbed by your presence, and many accidents will be avoided. It is these seemingly trivial steps which tell mightily in profitable pork production.

Care of Pigs.

In every pen there should be a slatted partition arranged, to be lifted up and dropped easily. After the pigs have had their breakfast, lift this and drive them under, then drop in place. They are with their mother, yet separate from her, and the exercise sure to follow an attempt to get with her will do much to ward off disease and promote vigor and strength. Repeat this again in the afternoon, but surely allow the family to be together overnight.

Before two weeks old a small trough should be provided, into which pour a little fresh milk at frequent hours, being careful to thoroughly cleanse each time before filling. Gradually a little middlings may be added, and when the time comes for weaning, the process is simple and there will be no loss. Instead of taking the pigs away from the sow, when six to eight weeks old, remove the sow from the pigs and they will hardly miss her, because they are in the only house they have ever known. It means a big, big loss to put a litter of pigs in strange quarters and have them squeal and starve for a couple of days, when a little thought would save all this. Look well to the teeth of the little fellows, but don't hunt for black ones as the cause of all earthly ills. If any are over

sharp and are lacerating the cheek snip off the top with a pair of sharp pincers.

A healthy sow can well produce two litters a year though there is not as much profit in the second as the spring litter, but a little attention should be given to time of their coming. It is well, if the quarters are warm, to have the early litter come the very first of March and then breed the sow again five days after removing her from the pigs. This would allow for them to run with her six to eight weeks, and have the second litter come the last of August.

Success Dependent on Type of Man.

There is no chance for a shiftless man to win success in this business, for the details, while not burdensome, are exacting and will not permit of neglect. No man should attempt to keep hogs who does not visit his paddocks or pens daily, who cannot find the right side of a hog and be on friendly terms with every one, and who does not see in the business full scope for all the skill, thought and application at his command. It is a good business for any live man, but one not to be neglected. The measure of profit will depend upon the energy and watchfulness as well as appreciation of the master. From a purely business standpoint pork production may well be urged upon Massachusetts farmers, for, scattered all over the State, there are skilled breeders, of all representative breeds, and full advantage can easily be taken of all expense, study and experience expended by these specialists in building up their strains.

Especially should this business appeal to the man of moderate means, for it is not a difficult proposition for one ton of pork to be produced from the offspring of a single sow in one season, and surely, following the hints here given for production of home-grown food, it comes pretty near a case where a man has his cake and eats it also, for he has his brood sow left for further production, his farm is being improved, and a substantial sum is yearly being added to his net income. Rightly fed and properly treated there is no animal so free from disease as the hog.

Prevention of Disease.

If by any cause disease gets a foothold, radical measures should be restored to at once to prevent a spread, and to cure the sick. Isolation is the first step to be insisted upon, and that in dry, clean, well-ventilated pens. Then will come the specific treatment given in the bulletins published by the government. Recognizing fully the importance of prompt and thorough measures, it is yet necessary to emphasize again and again the supreme value of pre-

vention of disease by a proper recognition of sanitary and hygienic conditions, and the use of nature's best food products in the making of choice, fresh, delicious pork.

Cost of Production.

Growing the roots, forage crops and corn for finishing, pigs can be grown to six months and to dress from 175 to 225 pounds for 4 cents per pound. We must remember that the rapidly grown young pig gives the best net returns, that it costs much more to gain a pound after six months old than at four, and that the secret of success lies in rapid growth, generous feeding at finishing and an early visit to the block and the pork barrel.

If it were possible to stimulate pork production along economic business lines, so as to supply the home markets of the State, a new life would be injected into every department of agricultural work, and an era of rural prosperity be ushered in such as was never before witnessed. The market is at our doors here in New England; the demand is active; the army of nonproducers increases steadily. There is no possibility for lower prices to be maintained, and this field, open before the energetic home builder, is attractive, permanent and sure to be remunerative in an increasing ratio as the days go by.

THE CONTROL OF CUTWORMS.[1]

Among the many species of cutworms the variegated cutworm (*Peridroma saucia* Huebn.) is found everywhere. It has little choice as regards the quality of its food, — anything succulent, whether the leaves, buds, flowers, fruits, stalks, tubers or roots of plants of the garden, field or greenhouse, serving the larvæ as a means of sustenance. The cutworm of one species or another is so well known as to need no description. In Massachusetts, at least, its excessive depredations of 1911, owing to the dry weather, have not been forgotten. Fortunately, wet seasons check the development of these insects, and parasites, predaceous beetles, birds and poultry prey upon them.

Among artificial methods of control poisoned bait is a standard remedy. To be effective it should be applied as soon as attack is noticed. It is particularly valuable in cases where the direct application of poisons to a plant is impossible, owing to the danger of poisoning persons or stock when it is used for food. There are two kinds of bait, — fresh vegetable and bran mash.

Vegetable Bait.

A good way of preparing a vegetable bait is to spray a patch of clover, pigweed or some useless succulent plant that grows by the roadside or in fence corners, with Paris green, 1 pound to 150 gallons of water; mow it close to the ground, and place it while fresh in small heaps about the infested plants, at intervals of a few feet. The later in the day that this can be done the better, as the material keeps fresh longer and the cutworms feed almost exclusively at night. Owing to the wilting of this bait, particularly in dry, sunny weather, it is advisable to cover each heap with a chip, shingle or bit of bark, for its protection against the sun's rays.

Bran Mash.

What is known as bran mash, or bran-arsenic mash, is equal in value to a fresh vegetable bait, and, according to some, still more efficacious. Paris green, arsenoid, white arsenic, or in fact any arsenical compound, can be used for poisoning this bait, and in its preparation, on account of the weight of the poison and the fact

[1] Abstract from Bulletin No. 29, new series, Division of Entomology, United States Department of Agriculture, by F. H. Chittenden. Abstract by H. Linwood White, First Clerk.

that it soon sinks to the bottom of the water when stirred, it is best first to mix the bran with water and sugar and then add the poison. The proportions are 2 or 3 ounces of sugar or a similar quantity of glucose or molasses to 1 gallon of water, and a sufficient amount of bran (about 1 pound per gallon) to make, when stirred, a mixture that will readily run through the fingers.

Before planting a crop it is advisable to use such bait, and for its perfect success the ground should be bare, which will have the effect of practically compelling the cutworms to feed upon it.

Protection of plants that are set out, such as tomatoes, cabbage and others, started under glass, may be secured by placing about the base of each a tablespoonful of the poisoned bran or a small bunch of the poisoned vegetable. Sometimes it is feasible also to dip the plants in poison before setting out. Where it is possible, however, to spray grass or weeds which have grown up in fields about to be cultivated, this should be done, as it is an easy means for riddance of the cutworms, and is less troublesome than the preparation and distribution of baits.

Bordeaux Mixture.

The use of this fungicide as a cutworm deterrent has been proved effective. In any case it should be used as a diluent for whatever arsenical mixture is used.

Caution should be exercised that poultry and other live stock may not have access to ground treated with poisoned bait until it has become well worked into the soil.

SERIES OF 1912. VOL. 25. NO. 2.

LIBRARY of the Massachusetts
JUL 22 1912
Agricultural College

MASSACHUSETTS CROP REPORT

FOR THE

MONTH OF JUNE, 1912.

IRRIGATION IN MASSACHUSETTS.

ISSUED MONTHLY, MAY TO OCTOBER, BY STATE BOARD OF AGRICULTURE, STATE HOUSE, BOSTON, MASS.

J. LEWIS ELLSWORTH, *Secretary.*

ENTERED JUNE 3, 1904, AT BOSTON, MASS., AS SECOND-CLASS MATTER, UNDER ACT OF CONGRESS OF JUNE 6, 1900.

BOSTON:
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
18 POST OFFICE SQUARE.
1912.

Approved by
The State Board of Publication.

Crop Report for the Month of June, 1912.

Office of State Board of Agriculture,
Boston, Mass., July 1, 1912.

The second crop report of the season of 1912, for the month of June, is herewith presented. Conditions were such at the time of the issuance of the May report that but a poor estimate of crop prospects could be made, owing to the lateness of the season. The current issue of the report will therefore be of added interest in that a better idea may be gained of crop prospects, and owing to the fact that the extent and damage of the late frosts of the past month are brought out. The special article in this issue, which will be found at the close of the reports, deals with the subject of "Irrigation," a subject which has received increased attention in New England the past two or three years, owing to the excessive droughts which have prevailed. The article is by Mr. Henry M. Howard of West Newton, who is profitably practicing irrigation methods, and who knows whereof he speaks. Interest in the practice of irrigation for this part of the country is bound to increase as its benefits and added profits are called to the attention of the Massachusetts market gardener and fruit grower. This article, coupled with the answers to the question on irrigation which was included in the circular to crop correspondents, will give the readers of the crop report an insight into the methods and results of the practice and of the extent to which irrigation is now practiced in Massachusetts.

Progress of the Season.

The Crop Reporting Board of the Bureau of Statistics, United States Department of Agriculture, estimates, from the reports of the correspondents and agents of the Bureau, as follows for the United States: —

Crop.	Acreage, 1912.		Condition June 1 (Per Cent).			Condition May 1, 1912 (Per Cent).
	Per Cent of 1911.	Acres.	1912.	1911.	Ten-Year Average.	
Spring wheat,	94.2	19,201,000	95.8	94.6	93.8	-
Winter wheat,	88.3	25,744,000	74.3	80.4	80.9	79.7
Oats,	100.2	37,844,000	91.1	85.7	88.4	-
Barley,	99.3	7,574,000	91.1	90.2	90.8	-
Rye,	-	-	87.7	88.6	89.7	87.5
Hay,	-	-	89.8	76.8	-	85.7
Pastures,	-	-	93.7	81.8	89.3	81.7

The following gives the indicated yield per acre and comparisons of total production. The indicated yield for 1912 is based upon the ratio of the average condition on June 1 to the final yield in the five years 1906–10: —

Crop.	Yield per Acre (Bushels).			Total Production in Millions of Bushels.			
	Indicated by Condition, 1912.[1]	Final, 1911.	Average, 1906-10.	1912.[1]	Final, 1911.	Final, 1910.	Census, 1909.
Winter wheat,	14.1	14.8	15.5	363	430	434	418
Spring wheat,	13.8	9.4	13.4	265	191	201	265
All wheat,	14.0	12.5	14.6	628	621	635	683
Oats,	29.3	24.4	28.4	1,109	922	1,186	1,007
Barley,	25.2	21.0	24.8	192	160	174	173
Rye,	16.0	15.6	16.3	-	33	35	30

[1] Interpreted from condition reports.

General Review of Crop Conditions.

[From the Crop Reporter of the United States Department of Agriculture for the month of June.]

Crop conditions in general on June 1 averaged for the United States slightly better (0.3 per cent) than on same date last year, but moderately lower (0.9 per cent) than the average June 1 condition of recent years. Crops as a whole are above average in the North Atlantic States (due mostly

to favorable hay prospects) and in the far western and northwestern States, being particularly favorable in Oregon; and below average conditions in southern States and in the North Central States east of the Mississippi River. In the North Central States west of the Mississippi River conditions are slightly above average.

The condition of various crops compared with their average condition (not normal) on June 1 was as follows: —

Apples, 110.2; pears, 108.7; peaches, 108.5; pastures, 104.9; alfalfa, 103.7; hay, 103.5; oats, 103.1; spring wheat, 102.1; cantaloupes, 101.8; cabbage, 101.4; watermelons, 101.3; clover hay, 100.6; barley, 100.3; lima beans, 100.3; onions, 100.1.

Rye, 97.8; cotton, 96.8; sugar beets, 96.0; raspberries, 95.7; hemp, 92.2; winter wheat, 91.8; sugar cane, 90.7; blackberries, 90.2.

The estimates of acreage compared with last year are for winter wheat, 88.3; spring wheat, 94.2; all wheat, 90.7; oats, 100.2; barley, 99.3; clover, 86.7.

The general or composite condition of all crops combined, by States, is as follows, on the basis of 100 representing average conditions (for most crops the ten-year average): —

Maine, 106.2; New Hampshire, 111.7; Vermont, 112.6; Massachusetts, 108.0; Rhode Island, 100.0; Connecticut, 102.4; New York, 104.8; New Jersey, 106.5; Pennsylvania, 104.4; above division, 105.5.

Delaware, 111.8; Maryland, 111.2; Virginia, 110.9; West Virginia, 115.5; North Carolina, 105.5; South Carolina, 103.1; Georgia, 92.1; Florida, 101.6; above division, 101.2.

Ohio, 88.1; Indiana, 85.8; Illinois, 87.5; Michigan, 94.1; Wisconsin, 99.7; above division, 91.1.

Minnesota, 103.8; Iowa, 99.3; Missouri, 95.4; North Dakota, 101.5; South Dakota, 100.9; Nebraska, 96.0; Kansas, 104.0; above division, 100.6.

Kentucky, 92.7; Tennessee, 97.5; Alabama, 92.6; Mississippi, 90.0; Louisiana, 88.0; Texas, 108.5; Oklahoma, 99.6; Arkansas, 91.7; above division, 97.4.

Montana, 101.9; Wyoming, 102.2; Colorado, 104.2; New

Mexico, 102.0; Arizona, 111.4; Utah, 102.4; Nevada, 98.4; Idaho, 103.0; Washington, 104.6; Oregon, 108.5; California, 100.8; above division, 103.4.

Temperature and Rainfall for the Whole Country.

[From United States National Weekly Weather Bulletin.]

Week ending June 3. — High temperatures prevailed at the first of the week in the eastern and southern districts, other portions were moderate, except that a cool wave advanced into the Rocky Mountains and gradually traveled eastward reaching New England during Thursday and Friday. The mean temperature for the week was above the normal throughout the country east of the Rockies, save in portions of the Ohio and Mississippi valleys where it was slightly below. Over the entire Atlantic and Gulf States the average for the week ranged from 3° to 5° above the normal. The extremes of temperature were not excessive over any large area. The general rainy conditions, central in the Dakotas at the end of the preceding week, moved gradually eastward, reaching the Atlantic coast by Thursday and the New England coast during Friday. Friday and Saturday local showers prevailed at scattered points in the central and northern Plains region, extending later into the Mississippi valley, Gulf States and Lake region. Local showers occurred Sunday and Sunday night over much of the Gulf and Atlantic coast districts, in the Lake region and thence westward to the Dakotas. Precipitation was fairly generous in the middle and northern Plains region and eastward to the Atlantic coast, the falls aggregating 2 inches or more over large portions of New York and New England.

Week ending June 10. — At the beginning of the week the temperatures from the Rockies eastward were near the normal. Early in the week high barometric pressure developed over the Canadian Northwest and, accompanied by cool weather, this area of high pressure moved eastward, reaching the Atlantic coast by Saturday, when unusually low temperatures were recorded, especially in New England and the Middle Atlantic States, while warmer weather developed in the west. The average temperature for the week

was below the normal over most of the territory east of the Rockies, while west of the Rockies the reverse was true. During the early part of the week local showers occurred in the Gulf and South Atlantic States and in the Lake region and along the northern border from the Dakotas eastward. Some local heavy rains occurred in the central districts in the middle of the week, and showers continued in the east Gulf and South Atlantic States, extending during Thursday to the entire Atlantic coast. The total fall for the week was very heavy in most of the Gulf States, and generally through the central sections. Over most of the remainder of the country the precipitation was very light, and as a whole the week was the driest of the season to date over the great cereal-producing States.

Week ending June 17. — The cool weather prevailing, especially in New England, moderated slowly during the early part of the week, but temperature still continued normal over much of the country. By the middle of the week lower temperatures developed in the upper central districts, and Thursday and Friday it was unusually cool over all eastern districts, with heavy frosts in the interior of New York and New England. The last few days of the week high barometric pressure developed in the far northwest and overspread the northern mountain districts by the end of the week. In general the temperature averages were below normal. Only widely scattered showers occurred during the first few days of the week except along the Gulf coast, where rains were fairly heavy. These rains spread over the central valleys and eastern districts during the latter part of the week. The precipitation for the week was generous in amount and fairly well distributed over all northern districts from the Atlantic to the Pacific. There was a decided deficiency of rainfall in New England, New York and New Jersey. No rain occurred over the far southwest and in portions of the Carolinas.

Week ending June 24. — The average temperature for the week was unusually low throughout the interior and southern portions of the country. Over the middle and southern mountain region, and thence eastward to the Mississippi and Ohio

valleys and lower Lake region, the weekly means were from 6° to 10° below the average, and they were nearly as low in portions of the Appalachian Mountain region, northern New England, and in the interior of California and southwestern Oregon. Along the Atlantic coast from Florida to New England there was a narrow area where the weekly means were near or slightly above the normal, and along the extreme northern border from Lake Superior to Washington the means were likewise somewhat higher than the average. For the season, March 1 to date, the temperature has averaged lower than the normal over the entire country, save for a narrow strip along the Atlantic coast, over portions of the east Gulf States and in the far northwest. During the early part of the week an area of high barometric pressure, of unusual extent for the summer season, dominated the weather over the interior portions of the country, and clear skies were the rule over all northern and western districts. High pressure continued during the middle and latter parts of the week throughout most of the country, and, although it was diminishing at the end, it was nearly everywhere still above normal at the close. As a result, no general storm of consequence developed, and such showers as occurred were local and widely separated.

Special Telegraphic Reports.

[Weather Bureau, Boston.]

Week ending June 3. — New England. Boston: The temperature averaged 2° above normal, while the rainfall was about normal in the southern portion, and generally from 1 to 2 inches above normal in the northern. Sunshine was about normal. The season is very late in northern New England on account of wet weather.

Week ending June 10. — New England. Boston: The week was generally fair, but the nights were cool the latter part, with light to killing frosts. The season is late and warmer weather is needed.

Week ending June 17. — New England. Boston: the temperature was low for the season, with cool nights. Frost did considerable damage in some localities. The light rainfall and large amount of sunshine have been favorable.

Week ending June 24. — New England: Boston: Generally clear weather, with seasonable temperature, marked the week, and made excellent conditions, but the surface of the ground is becoming dry and a moderate rainfall is needed.

The Weather of June, 1912.

The past spring has been one of the wettest in the last ten years, the rainfall for the months of March, April and May exceeding that of any other similar period since 1901. Since the 1st of June, however, there has been no rain other than scattered light local showers, the total amounts of which have generally been less than one-half inch, making it the driest June in this section during the past forty years. The ground being so saturated with water at the beginning of the month, together with higher temperature and abundant sunshine, made the conditions very favorable for growth, and most favorable for the hay crop. There was some damage from frost to garden truck and on cranberry bogs during the first half of the month. At the close of the month the ground was becoming dry and rain was generally needed, except in low land. The amount of sunshine was much greater than usual.

Publications.

The Crop Report for the month of May, copies of which are still available, contained an article entitled "Pork Making for Massachusetts Farmers," by Dr. Geo. M. Twitchell of Auburn, Me., and also a paper on the control of cutworms.

State Nursery Inspection Bulletin No. 1, on "The White Pine Blister Rust," was issued about the middle of the month. This disease is doing much damage at the present time to imported pines. The bulletin tells what it is, on what it grows, how it grows, how to recognize it, the kind and extent of its injury, present conditions in regard to importation of pines, and methods of treatment for the disease.

Nature Leaflet No. 15, on "Bird Houses," has been reprinted, without revision.

Massachusetts Society of Beekeepers.

The Annual Field Day Meeting of the Massachusetts Society of Beekeepers will be held at Hill Crest Apiaries, the home of Mr. Fred C. Howard, Wakefield, Mass., on Saturday, August 3, from 11.30 to 4. Basket lunch. All interested in bee culture are cordially invited to attend. Lectures and demonstrations will compose the program for the day.

Bushel Weight of Certain Commodities.

[Massachusetts standards established by chapter 284, Acts of 1912, amendatory of section 4 of chapter 62 of the Revised Laws, as amended by chapter 297 of the Acts of 1910.]

	Pounds per Bushel.
Apples,	48
Apples, dried,	25
Barley,	48
Beans,	60
Beans, shell,	28
Beans, string,	24
Beet greens,	12
Beets,	60
Bran and shorts,	20
Buckwheat,	48
Carrots,	50
Clover seed,	60
Corn, Indian,	56
Corn meal,	50
Cotton seed, sea island,	44
Cotton seed, upland,	30
Cranberries,	32
Dandelions,	12
Flaxseed,	55
Herdsgrass or timothy seed,	45
Kale,	12
Lime,	70
Millet, Japanese barnyard (Panicum crusgalli),	35
Oats,	32
Onions,	52
Parsley,	8
Parsnips,	45
Peaches,	48
Peaches, dried,	33
Peanuts, green,	22
Peanuts, roasted,	20
Pears,	58
Peas,	60
Peas, green, unshelled,	28
Potatoes,	60
Quinces,	48
Rice, rough,	45
Rye,	56
Rye meal,	50
Salt, coarse,	70
Salt, fine,	50
Shorts and bran,	20
Soy beans (Glycine hispida),	58
Spinach,	12
Sweet potatoes,	54
Timothy or herdsgrass seed,	45
Tomatoes,	56
Turnips,	55
Wheat,	60

Summary of Crop Conditions.

In the circular to correspondents, returnable June 24, the following questions were asked: —

1. What insects are proving injurious in your locality?
2. How is Indian corn looking, and what is the acreage as compared with previous years?
3. Has haying begun, and what is the prospect for the crop?
4. How does the acreage of early potatoes compare with previous years, and what is the promise for the crop?
5. How do early market-garden crops compare in yield and price with former years, and what is the prospect for those not yet harvested?
6. How do the quantity and price of dairy products and the supply of dairy cows compare with former years?
7. What is the condition of pasturage in your locality?
8. What is the outlook for such fruits and berries as are grown for market, naming them?
9. To what extent is irrigation practiced in your locality, and what system is most in use?
10. Have you had damaging frosts since the last report? If so, on what date or dates, how serious was the damage and to what crops?

Returns were received from 123 correspondents, and from them the following summary has been compiled: —

Insects.

With the advent of warm weather and increase in amount of vegetation there has come an increase in the damage by insects over that reported as having been done last month. However, the reports for June do not emphasize destructiveness of any particular insect. Potato beetles are reported as doing damage by 55 correspondents; cutworms, by 35; tent caterpillars, by 33; gypsy moths, by 15; brown-tail moths, by 13; elm-leaf beetles and cranberry insects, each by 11; with other scattering reports.

Indian Corn.

Indian corn is reported as being late in all sections of the State on account of the cold, wet spring. In some localities the seed rotted in the ground, and fields had to be replanted in whole or in part. The crop is generally considered small for the time of year. Reports of increased acreage, in some cases of 25 per cent, come chiefly from eastern and southeastern sections. In other parts the acreage is about as usual, or normal. Only 4 correspondents report the acreage as being less than, or below, the average of former years. With warm nights and sufficient rainfall during July the crop should make up for lost time.

The Hay Crop.

About half the reports showed that haying had begun, the proportion of those reporting begun, to those reporting not begun, being greater east of Worcester County, than in that county and westward. The continued rains of the spring gave promise of a bumper hay crop, but the dry weather of the past month, coupled with the droughts of the past few years, have reduced the crop considerably below expectations. The crop will generally be a normal one, and in some instances even heavy, especially on low lands. Newly seeded pieces and well-cared-for mowings offer good crops, while permanent mowings and upland fields are reported as being light.

Potatoes.

The acreage of early potatoes is about the same as in former years, with a slight tendency toward a decrease. Many fields were planted so late that the plants are just above the ground, and lack of rain has held the crop in check. In places only late varieties have been put in on account of the excessive wet weather the latter part of May. Vines are looking well, but it is too early to prophesy as to the outcome of the crop. Rain will add much to the brightness of the prospect.

Early Market-garden Crops.

Very few early market-garden crops had been harvested at the time of making returns. The yield of those sold has been light, but prices have been about the same as last year, or above the average. The asparagus yield was light to good, with prices a little under those of last year. Bunched beets are lower in price. All market-garden crops are backward; peas, in particular, show lack of rain; later crops are looking well.

Dairy Products and Dairy Cows.

The quantity and price of dairy products appear to remain about the same; if anything, the supply is a little less and the prices a little more than last year. The retail price of milk has advanced 1 cent per quart in some places. Dairy cows are reported from all sections as being scarce in number and high in price. The increased cost of grain is quoted as a factor in the decrease of cows and the consequent high price they command. Further than this, the demand for dairy cows is slowly decreasing, and therefore less are being imported from without the State.

Pasturage.

Pastures responded liberally to the favorable weather conditions that prevailed during April and May, but are beginning to show the effects of the continued dry weather. Evidently, in spite of the excellent start, the shortage of pasturage will be felt this year as in the last two or three years, and provision should be made by farmers for feeding stock at the barn.

Fruits and Berries.

Returns indicate a fair to good outlook for the more important fruits and berries. Correspondents generally report prospects for apples as from fair to good, with some complaints of light crop promise. Pears and peaches will show a light crop, and plums will be about as usual. Cherries are a normal crop. Strawberries are yielding well in most sections, but in many are giving light yields on account of lack

of rain. The late varieties will probably not show up so well as the earlier. Other berries are reported as having bloomed full, and as offering bright prospects for a good crop, provided occasional rains are had. Frosts did some damage to cranberries.

Irrigation.

Irrigation is reported as being practiced only in market-garden districts. Returns show that some truck farmers have installed systems only recently, thus indicating a trend toward more widespread adoption of this profitable method of crop insurance.

Frosts.

Frosts occurred from the 6th to the 10th and from the 13th to the 15th in various parts of the State. These were local in character, and consequently not injurious to crops as a whole. However, severe damage to early garden crops, particularly beans, corn and tomatoes, is reported from many localities. The fact that many crops were not out of the ground contributed to the freedom from injury reported.

NOTES OF CORRESPONDENTS.

[Returned to us June 24.]

BERKSHIRE COUNTY.

Tyringham (Edward H. Slater). — Potato bugs are proving most injurious. Indian corn is from two to three weeks later than usual, but the acreage is somewhat increased over last year. Acreage of potatoes about the same as in former years, with the prospect of a fair crop. Very few market-garden crops are raised. Dairy products are somewhat higher than in recent years. Only a small number of cows have been sold. Pasturage is looking fairly well. The outlook for apples is very good, and there will be a good crop of berries of all kinds. Gardens were somewhat damaged by frosts in the early part of June.

West Stockbridge (J. S. Moore). — Insects doing damage are mostly tent caterpillars, with a limited number of potato bugs. Indian corn is at least three weeks late. About the usual amount of planting has been done. Haying has not commenced, but there are prospects for much better crops than last year. Acreage of early potatoes about the same. Weather has been so cool that no estimate of the crop can be given. Very few or no market gardens in town. About the usual number of dairy cows are kept; butter and milk is fully as high as last year. The high price of grain fixes price of cows and dairy products. Pasturage unusually good on account of so much rain. Little or no fruit or berries grown for market. Had light frosts on the 8th, 10th and 14th; but little damage was done as the gardens were still underground.

Becket (Wm. H. Snow). — Potato beetles and apple-tree worms are proving injurious. Indian corn is very late, but several more acres than previously are planted. Haying has not begun; there will be an average crop. Potatoes planted early are looking fine where the frost did not touch them; some are just being planted. Market-garden crops are all very late; frost and cold weather have kept some back. The supply of cows small and scarce. Price of dairy products fully up to former years. Pasturage is better than usual. Apples, pears, strawberries, blackberries and blueberries have bloomed full. Frosts on the 7th, 9th and 10th, and very cold

nights before and after, injured corn, potatoes, beans and summer and winter squashes, even on very high grounds in some parts.

Peru (F. G. Creamer). — No injury from insects. Indian corn is late. Haying has not begun. Grass looks well. Butter is high. Fifty dollars buys only a fair cow. Condition of pasturage is good. Fruits and berries bloomed well. Frosts nearly every night, damaging beans and tomatoes.

Dalton (Wesley B. Barton). — Indian corn growing very slowly and a lot had to be replanted. Haying has begun; the prospect is 90 per cent. Acreage of potatoes is normal, but it is too early to estimate the crop. Price of early market-garden crops is high; prospect good. Price of dairy products 10 per cent. higher. No supply of dairy cows. Pasturage is in good condition. Fruits and berries good, especially strawberries. Some damaging frosts. Season is slow and backward; fully two weeks late, except for hay.

Cheshire (L. J. Northup). — Potato beetles and wire worms are the most injurious. Indian corn is very backward, and the acreage about as in years previous. Haying, except in lodged places, has not begun; prospect is about normal. Early potatoes do not compare as to acreage with previous years, but the crop promises a fair yield. Market-garden crops look well, and prices will be about as usual. Dairy products seem to be normal; the supply of dairy cows is somewhat off. Pastures are extra good at present. Strawberries are being picked and are retailing for 15 cents per basket. Occasional light frosts have not produced very much noticeable damage. Nights are very cool.

Savoy (Willis W. Burnett). — Very little damage from insects as yet. Potato beetles are just putting in appearance. Corn is unusually backward, on account of the cold and wet weather; the acreage is about as usual. Haying has not begun; there is prospect of a heavy crop. Acreage of early potatoes is greater than in previous years, but not all planted yet. Very little early market-garden crops ready for market. Quantity of dairy products is about an average; the price is higher. Cows are scarce and bring a higher price. Condition of pasturage is better than the average. Not much fruit and berries grown for market. Very little irrigation practiced. Several hard frosts have done some damage to early garden crops. Everything is rather backward; yet the farmers are looking for good crops.

Williamstown (S. A. Hickox). — Tent caterpillars and elm-leaf beetles are proving injurious. The acreage of Indian corn is normal. Haying has not begun; the prospect for the crop is 85 per cent. Early potatoes are normal in acreage; too early to predict the yield. Early market-garden crops are 70 per cent. of the normal in yield and price, with the usual prospect for those not yet harvested. The market for dairy cows is good. Pasturage is about

85 per cent. of the normal. The outlook for applies is three-fourths normal and for small fruits normal. Four slight frosts have done a little damage to corn, about one-half of which is up. Seed corn was poor; very little would test 50 per cent. in germination.

FRANKLIN COUNTY.

Rowe (Henry D. Wright). — Tent caterpillars are proving injurious. Corn is very backward, with about the same acreage as usual. No hay cut as yet; the prospect is for fully an average crop. No early potatoes planted to speak of, and no early market-garden crops raised. The quantity and price of dairy products and the supply of dairy cows are about the same as in former years. Condition of pastures is good. No small fruits and berries are grown. Have had two slight frosts since June 1.

Bernardston (R. H. Cushman). — Black flea beetles are proving injurious, and large and small flies are troubling stock at pasture. The acreage of Indian corn is average, and the crop being planted late is small for the date. Haying has begun, but will not be a large crop. Early potatoes were set back by frost. Beetles are abundant. Cows have yielded well. Cream is selling for 34 cents per pound of butter fat. Milk is 4 to 4¼ cents at the door. Condition of pasturage has been fine. Strawberries are a full crop. Gardens where exposed, and early potatoes, suffered from frosts. Rain is needed.

Northfield (T. R. Calender). — Tent caterpillars are unusually numerous, also cutworms. Good stand of Indian corn, but very backward. Average crop of hay, except clover, which is extra good; little cut yet. Potatoes are looking well. All garden crops are late. Quantity and price of dairy products are about as usual. Cows are high. Condition of pasturage is good. Very few fruits and berries are grown for market. Strawberries, raspberries and blackberries promise well. Frosts did damage to early market-garden crops, particularly beans, sweet corn and tomato plants.

Buckland (Eugene D. Griswold). — Tent caterpillars are doing nearly all the insect damage at present. Corn is later than usual; not looking as well; the acreage nearly the same. Haying has just begun and the crop is about normal. There are very few early potatoes. The potato acreage is about as usual, but many fields are just out of the ground. No market gardening of any amount here. The supply of dairy cows and the quantity of products are about as common. Prices are a little better than in former years. Pasturage is very good. Apples are the principal fruit grown for market, and the outlook seems to be good. We had frosts on the nights of June 6, 7 and 13, damaging gardens and a few fields of corn somewhat.

Ashfield (Albert Howes). — Potato bugs have appeared a little and cutworms are also causing some trouble. The Indian corn crop is somewhat backward; much seed rotted in the ground. Very few have begun haying, although many will begin this week. The crop is not as good as promised by prospects earlier in the season. Early potatoes are about the same acreage as last year. No market-garden crops are raised. The price of dairy products is a little higher than last year. Pasturage has seldom looked better at this time of the year. Practically no small fruits or berries raised here. Frosts occurred June 8, and damaged gardens and potatoes in all places.

Montague (A. M. Lyman). — Cutworms and potato beetles proving injurious. The acreage of Indian corn is about the same, but its condition hardly in average. Haying has begun; prospect for the crop is good. The acreage of early potatoes is less, but a fair crop is promised; some are in bloom. Market-garden crops that have been closely cared for are good. The quantity and price of dairy products are fairly good; the supply of cows has fallen off one-half in three years. Pasturage is quite good, but is not fed down as usual. The outlook for apples is fairly good. Strawberries good; no peaches or plums; few cherries and some blackberries. Frost on June 8 nipped early stuff considerably.

Wendell (N. D. Plumb). — Cutworms and potato bugs are proving injurious. Large acreage of Indian corn planted, but very backward in growth. Haying will begin July 1; crop is a normal one. Only a few early potatoes planted, but they look very promising. No early market-garden crops raised in this section. Dairy products and cows are 20 per cent. higher than in former years. Condition of pasturage is good. Berries and fruits of all kinds promise a large yield. No frosts.

Sunderland (Geo. P. Smith). — Cutworms and onion maggots are doing damage to some extent. Early plantings of Indian corn look well, but many fields were planted late on account of wet ground. Acreage is about the same. Haying will begin next week; the crop will not yield so heavy as promised earlier. Not many early potatoes grown for market; the crop looks well. Market-garden crops gave a late yield, with prospects good. The price of dairy products shows a small advance, but the supply is less. Good cows are high. Pasturage is in fair condition, but grass is not growing fast. Not much fruit and berries grown for market; those grown will not be a full crop. No irrigation practiced in town; some overhead systems were installed in Hatfield and Whately for onions last fall. Slight frosts in spots two or three mornings early in month, with little damage. Shade-grown tobacco is making rapid growth; other tobacco grows slowly, on account of the cold. There is need of more rain and higher temperatures.

New Salem (Daniel Ballard). — Cutworms and potato bugs are

destroying tomatoes. A voracious caterpillar has appeared on elm trees. Indian corn is very backward, but about the usual acreage planted. Haying has not begun to any extent; the prospect is for a medium crop. Potatoes are coming forward well, with some increase in acreage. Not much done in growing early market-garden crops. Former prices of dairy products are sustained and in a measure exceeded. Pasturage is good, but a little rain is needed. There is a medium crop of strawberries. Frosts occurred from the 6th to the 10th, cutting down tomatoes, corn, beans and other tender garden crops to a considerable extent.

HAMPSHIRE COUNTY.

Plainfield (C. A. Williams). — Potato bugs are doing as much damage as any insects. Corn is backward and grows slowly; more has been planted, however, on account of high prices of grain the past year. Haying begins June 26 or 27. The acreage of early potatoes is about the same as in previous years, but it is too early to determine what the crop will be. Not many market-garden crops have been harvested. The quantity and price of dairy products about the same as last year. Dairy cows are a little more plentiful. Pastures are in good condition. Apples, pears and plums are setting well. Berries have blossomed full, and good crops are expected. On June 7, 14 and 15 severe frosts injured gardens and all hoed crops, and grass to some extent, on the lower lands, with less damage on the hills.

Goshen (Geo. L. Barrus). — So far no insects seem to be doing serious damage. Indian corn is backward on account of cold weather; the acreage is slightly less. Haying has not begun; a fair crop is expected. Very few early potatoes were planted, but the vines are looking well. Very little market gardening done here. Dairy products are high; quantity is about the same as in previous years. Cows are scarce and high. Pasturage is in good condition. The outlook for apples is fair; for pears, light; for peaches, lighter; and backberries have blossomed well. Frosts on June 7, 8 and 9 did some damage to early gardens.

Middlefield (J. T. Bryan). — Very little damage from insects has occurred. An average acreage of corn, but very late, owing to cold, rainy spring. Haying has just begun, with a full crop. The acreage of early potatoes is an average, and is looking well, though planted late. Early crops were seriously injured by frosts, but prospects are good for later ones. Price and quantity of dairy products are average, but a scarcity of good dairy cows exists. Condition of pasturage is excellent. All kinds of fruits and berries promise abundant crops. Severe frosts occurred on June 8, 10 and 14, and early gardens were nearly ruined.

Westhampton (Levi Burt). — Potato bugs are the most troublesome. Corn is very backward; the cold wet season, with poor seed, has delayed the crop from ten days to two weeks; no increase in acreage. Haying has not begun, but the prospects are good for an average crop. No increase in acreage of early potatoes, and the crop was so late in getting started that prediction cannot be made at this date. Early market-garden crops are not raised to any extent. There is no marked change in price and quantity of dairy products, and the supply of cows seems to equal the demand. Pasturage is good, but needs rain. Only one grower of strawberries for market in this locality has a good crop. Currants promise well, but only a few cherries were in full bloom. Slight frosts on June 7 and 8 and a light frost on June 13 did but little damage.

North Hadley (H. C. Russell). — Cutworms and onion maggots are doing damage, with some damage from wire worms. Corn is late, but about the average acreage planted. No haying done yet. Potatoes are looking well, with the usual acreage. The condition of pasturage is excellent. There is no change in the number of cows, and prices are about as usual. Heavy crop of strawberries, with good prospects for later varieties. Two light frosts occurred, damaging corn and potatoes.

Hadley (L. W. West). — No insects are doing serious damage. Indian corn is backward; the acreage an average. Haying hardly begun. Crop not over 80 per cent. of the average. Acreage of and promise for early potatoes are normal. The yield of early market-garden crops is light; prices are good. Milk is higher in price. The supply of dairy cows is normal. Pasturage has been in good condition, but is getting dry. Strawberries are good, but a light crop. The prospects for other berries are good. No frosts to do any damage. The first of June was so wet that corn and late potatoes have been retarded in growth. The top of the ground is getting dry and the nights are too cool for rapid growth.

South Hadley (W. F. Person). — The potato beetle is proving injurious. Corn is very late; the acreage is about as in former years. Very little hay cut as yet, but the prospects are for a good crop. Early potatoes are not looking very well. Garden crops compare very well in yield with former years. Prices of dairy products and of cows compare favorably with former years; the latter are not plentiful. Pasturage is in good condition. Berries, particularly late strawberries, show the usual outlook. There has been no frost to do any damage, but the cold and wet season has made all crops very late. A little rain is needed at present.

Pelham (John W. Knight). — Potato and squash bugs are the most troublesome. The acreage of Indian corn is about the same, but the corn is very small for the season. No haying has begun; the prospect is for a good crop. The acreage of early potatoes is

an average, and they are looking well. No market gardening in Pelham. The quantity of dairy products is about an average; the prices are good. Pasturage is good. The outlook for berries is good; strawberries are doing well, but there are not so many cherries as usual. No damage from frosts. Season is from two to three weeks late, with very little warm weather as yet.

Prescott (W. F. Wendemuth). — Potato bugs doing damage. Indian corn is somewhat backward and of poor color; the acreage is as usual. Haying has not begun; prospect is better than last year, but rain is needed. Early potatoes not grown for market. Late potatoes look well, with slightly increased acreage. No early market-garden crops grown. Cows are in usual supply. Dairy products are slightly lower in price. Pasturage fairly good. Apples fair to a good crop, and not falling much as yet. Only berries are huckleberries and blueberries; these promise a good crop. Frosts on June 7 and 8; not very serious damage to corn, potatoes, garden crops, grapes and berries. Many more farmers spraying fruit trees than formerly.

Belchertown (Almon L. Pratt). — No damage of any account from insects. Acreage of Indian corn normal; crop two or three weeks late. Indications of a large hay crop, but none cut so far. A normal acreage of early potatoes. Price of early market-garden crops high; yield light. Crops not yet harvested are light. Dairy products are high, and the supply of dairy cows is short on account of a light hay crop last year. Pasturage is in much better condition than usual. Strawberries and raspberries are a light crop. Not much damage from frost.

Enfield (D. O. Chickering). — Indian corn is quite backward, but growing well now. Haying is just commencing, with prospects for a good crop. Acreage of early potatoes is about as usual, but the crop is not looking as well as the average. Early market-garden crops not raised to any extent. Quantity and price of dairy products and supply of dairy cows are about the same. Pasturage has been very good, but is now getting quite dry. The outlook for the apple crop is good. Other fruits and berries are not grown to any extent. Frosts occurred on the 9th and 10th, and damaged grapes and berries, and nipped a few pieces of corn.

HAMPDEN COUNTY.

Tolland (Eugene M. Moore). — Potato bugs and tent caterpillars doing the most damage. Indian corn is about the usual acreage, but two weeks late. Not much haying done yet; the crop will be about normal. The acreage of early potatoes is about 50 per cent of the average; some pieces are looking fine. Dairy products are the same as last year in quantity and price. Good cows are scarce and high

in price. Pastures are getting pretty dry for June; most of them are pretty well grown up to brush. Not much damage by frost.

Blandford (Enos W. Boise). — Tent caterpillars and potato beetles are very plentiful. Indian corn is small, but a full stand, with a normal acreage. Haying has not begun; prospect for a full crop is not good. Early potatoes are about a normal acreage, but it is too early to prophesy as to the crop. All garden crops are late; without rain the yield will be small. There is a good quantity of dairy products and the price is above the average. The supply of cows about as usual. Pasturage is good at present. Strawberries and raspberries are a full crop and all wild berries set well. Frosts about the 10th to the middle of the month on low lands cut down all garden crops.

Russell (E. D. Parks). — Tent caterpillars, elm-leaf beetles and potato bugs are most injurious. Indian corn is looking well, but is two weeks behind a normal year, with the usual acreage. Haying has just begun, with prospect for a normal crop. The usual acreage for early potatoes; the crop looks quite promising. But little done in market gardening in this section. Gardens are backward. Dairy products are fully up to average in price. Cows are scarce and high. Condition of pasturage is above an average. Strawberries are quite a good crop. No damage by frosts to speak of.

West Springfield (N. T. Smith). — Potato beetles have done serious damage in some tomato fields by eating out the center of plants. Corn is backward on account of late planting and cold winds; acreage about as usual. Very little grass has been cut. The prospect is for an average crop, but not as great as early indications promised. Early potatoes are looking well; there is little change in acreage. Bugs are plentiful. Early market-garden crops are average as regards yield and price, with good prospects with seasonable rains. Milk is in good demand, and a June surplus is not apparent; sells at 4½ cents per quart at farm. Good cows are scarce and price is high. Pasturage is average in condition, but needs rain. Strawberries are below the average; raspberries and blackberries set heavily. Two of the large market gardeners installed irrigation plants the past winter, but I do not know name of system. No frost to do any damage.

Agawam (J. G. Burt). — The potato bug is the most injurious. Corn is rather backward; about the same or a little more in acreage. Haying has begun, with the prospect for a medium crop. Acreage of potatoes is less and promise is for a light crop. Market-garden crops are about the same as usual; prospect is for a light crop, if we have no rain. Quantity and price of dairy products are about the same. The supply of dairy cows is as usual. The condition of pasturage is good. Berries are a good crop, but apples and pears promise light crops. There are two irrigation plants here. In the

larger plant, water is pumped into a very large tank by a gasolene engine and is piped from the tank over all the lots. No frosts here since last report.

Ludlow (C. B. Bennett). — Very few insects except potato bugs. Indian corn is in poor condition; nearly one-half had to be replanted; the acreage is more than an average. No haying done as yet, but the grass looks well on good land. Meadows are filled with blue-joint and there is an abundance of clover on the uplands. Acreage of early potatoes less than usual; the crop looks well but is late. All market-garden crops look fair, with the exception of vines. Milk is 4 and 4½ cents at wholesale. Very few good cows for sale. Pasturage is very good. The outlook for apples is fair. There are no pears or peaches and few cherries; strawberries a light crop. No very serious frosts.

Hampden (John N. Isham). — Tent caterpillars are the most injurious, but doing little damage. Potato beetles have just appeared. Corn is looking well, but is a little late. Haying has not begun in earnest; prospect is for a good crop. About the usual acreage of early potatoes, with promise for a good crop. Garden crops are promising, with prices equal to those of former years. The quantity and price of dairy products compare well with former years. Cows bring high prices. Pasturage is in fine condition, better than usual. Prospect is very good for all berries. Irrigation is not practiced, but the tendency is toward dry farming methods to conserve moisture. Frosts on the 6th and 8th injured beans, tomatoes and early, tender garden stuff. Apple trees show vigorous growth; rain and cold winds thinned the pear crop. Robins and meadow larks are more plentiful than usual.

East Longmeadow (John L. Davis). — Wire worms, cutworms and potato beetles are proving injurious. Indian corn is an average acreage and is looking well, though late. Haying has begun; the crop is uneven, but an average. Old mowings are poor; new ones good. Season is too late for early potatoes. Some potatoes are looking fine; others rotted in the ground. There is good prospect for market-garden crops, peas are the only ones ready, and the crop is good. Milk is not so plentiful as last year, but otherwise the quantity and price of dairy products are about the same. Condition of pasturage is very good. Strawberries are a fair crop, but ripening too fast; apples look good; there are few pears and no peaches. We have had three frosts, which hurt tomatoes, beans and cucumbers somewhat on low ground.

Monson (F. D. Rogers). — No insects are troublesome at this time. Haying will begin some this week; prospect for the crop is not as good as promised earlier. Less early potatoes planted on account of late season. Quantity and price of dairy products and the supply of dairy cows about the same as last year. Dry weather

is affecting the pasturage seriously. Very little irrigation is practiced. Because of lateness of crops, the hard frost on the 8th did not do much damage.

Palmer (O. P. Allen). — Cutworms are doing some damage; elm-leaf beetles are a little in evidence. Indian corn is very small and backward, but the acreage is about the same as usual. Haying has just begun; prospect is quite promising. Acreage of early potatoes is normal; the crop promises well, but is later than usual. Early market-garden crops are hardly in evidence. The price of dairy products is about the same and the supply fully up to the normal. Pasturage is looking well, due to abundance of rain. Fruits and berries are looking well, particularly strawberries, blackberries and black caps. Very little attention is given to irrigation. Considerable but not general damage was done to garden and field crops by a frost on the 7th.

WORCESTER COUNTY.

Royalston (C. A. Stimson). — Tent caterpillars and potato bugs are causing injury. Indian corn is very small; three weeks behind normal; acreage about the same. Haying has not begun, but prospect for the crop is good. The same acreage of early potatoes planted, but promise of the crop will be rather poor. No early market-garden crops raised. Dairy products grow smaller in quantity and higher in prices, as do dairy cows. Pasturage is good. Strawberries, blueberries, raspberries and blackberries look like a full crop; apples and pears look well now. Frosts occurred in first week of June.

Fitchburg (Dr. Jabez Fisher). — Potato beetles proving injurious. Haying will begin on the 24th. There is little or no increase in the acreage of early potatoes; plants are now looking well, but are a little late. Dry atmosphere of June, with only trifling rain, unfavorable to growth of early market-garden crops. Condition of pasturage is fair. Apples and pears are looking fine, but there is only a moderate crop of the latter; strawberries look fine, but need rain; raspberries are poor; grapes extra. Frosts occurred on the 8th and 10th that were killing in a few low spots. Only .21 inch of rain fell during month to date.

Templeton (Lucien Gove). — Potato beetles, currant worms, cutworms and tent caterpillars are doing damage. Indian corn was planted late, germinated slowly and is very backward. Haying has begun to a limited extent; prospect is for a better crop than last season. Early potatoes were planted late; acreage is about the same. Early market-garden crops show a diminished yield, with prices higher than last year. Later crops are much in need of rain. Yield of milk for local markets is normal and the price unchanged. Good cows are high, with but little call. Condition of pasturage is better

than for the last two years. Strawberries are only a fair crop; currants a good crop; it is too early to decide on later fruits. Frosts on the 8th, 9th and 10th seriously injured potatoes, beans and corn in many localities. Up to time of writing, the month has been unusually cool; crops backward; surface dry and rain much needed.

Dana (Lyman Randall). — Currant worms, cutworms and potato bugs are proving most injurious. Indian corn is small, but there is a larger acreage than last year. Very little hay has been cut; the crop will be fair. There is not as large an acreage of potatoes, and they are late and uneven. No market-garden crops harvested, owing to frosts and seed not germinating. Quantity of dairy products is up to the average; price is a little higher. There is a fair supply of cows. Pasturage is in good condition. Strawberries are a good crop. Frosts on the 8th, 9th and 10th damaged everything, and many crops had to be planted over.

East Princeton (A. O. Tyler). — Cutworms and potato bugs prove injurious. Indian corn is backward and small for this time of year; about two-thirds of the general acreage planted. Haying has begun, and the prospect for the crop is fair, though not as good as expected in the spring. Very few early potatoes raised, and no market-garden crops. Quantity and price of dairy products and the supply of dairy cows remain about the same. Pasturage has been in good condition, but the dry weather is hurting it now. Apples are a half crop; pears, plums and peaches promise small yields; cherries are full; outlook for berries good. On the 7th and 9th occurred frosts most damaging to corn, beans and vines.

Barre (John L. Smith). — Tent caterpillars are doing damage. Indian corn is late, with about the same acreage. Haying has not begun; the crop will not be an average, and old fields are very light. Very few early potatoes and market-garden crops raised. Milk is low in price and quantity; butter is high. There is a shortage of dairy cows. Pastures are looking better than last year, but show the effects of two dry years. No fruits or berries grown for market. No frosts have occurred.

Bolton (H. F. Haynes). — Caterpillars doing the only damage. Indian corn is backward. Haying has not begun; the prospect for the crop is fair. Normal acreage of early potatoes. Not many early market-garden crops harvested yet. Dairy products about the same in quantity and price. Cows are very high. Pasturage is good. Very little damage from frosts.

New Braintree (Chas. D. Sage). — Very little damage done by any pest at present. Indian corn is doing very well, but is backward, much of it being only two or three inches high. Haying has just begun; the crop wll be disappointing. About the same acreage of early potatoes. Many plants hardly above ground. Very little early market-garden crops grown. Quantity of dairy products fair.

Price of milk is lower than it costs to produce. Pasturage is very fair, although it will take several years for pastures to recover from last year's drought. No berries and but little fruit, save apples, grown for market; these promise a fair crop. Little damage done by frost, except in a few low places. All crops are very late, and reliable help almost impossible to obtain.

North Brookfield (JOHN H. LANE). — Insects are not proving as injurious as usual. Indian corn is quite small, as it was planted late, but is now growing well. Very little haying begun; prospect is for a crop 50 to 65 per cent of normal. The acreage of early potatoes is the same as in previous years. Vines are small but growing well. Little early market-garden stuff on the market. Quantity of dairy products is 80 per cent of the average; price as usual. The supply of cows equals the demand, as hay is $30 to $35 per ton. Condition of pasturage is 80 per cent of normal. Strawberries in fine condition. There have been two quite sharp frosts in lower localities, but none on the highlands.

West Brookfield (MYRON A. RICHARDSON). — Cutworms are making havoc in some places. Indian corn is backward and small on account of cold weather, but is a good color; the acreage is normal. Haying has not begun; old fields will be light. The usual acreage of potatoes has been planted, but it is too early to tell what the outcome will be. Market-garden crops not raised here. Good dairy cows are scarce and high. Pasturage looks well at present, but needs some rain. Strawberries will be a light crop this year; currants normal. We have had two heavy frosts, cutting down beans so as to necessitate planting over; corn and potatoes were damaged some.

Warren (W. E. PATRICK). — Elm-leaf beetles, striped bugs, spit bugs and potato bugs are proving injurious. Indian corn is very backward, but the acreage is fully as great as in former years. Haying has not begun; the prospect is for a very light crop. The acreage of early potatoes is about the same; cannot tell yet what the prospect will be for the crop. There is a scarcity of good dairy cows. Dairy products are in good demand; prices are low. Pasturage shows the effect of the past dry season. We had three frosts in June; one quite severe, killing tomato plants and injuring some fields of potatoes.

Charlton (LOREN E. STEVENS). — Cutworms are doing some damage. Indian corn looks well, and there is about the usual acreage. Haying has not begun; the grass is looking well. About the usual amount of early potatoes have been planted. Quantity and price of dairy products are as usual, with the exception of butter, which is higher in price. Pasturage is in excellent condition. Strawberries are plenty; grapes blossomed full, as well as pears; peaches are not so plenty. Slight frosts injured beans and tomato plants.

Shrewsbury (FRED J. REED). — Cutworms, brown-tail moths,

squash bugs, maggots and caterpillars are doing damage. Indian corn is just starting and the acreage is about the same. A little haying has begun and the prospect for the crop is very good. The acreage of early potatoes is a little larger, with the promise for a good crop. Early market-garden crops are a little backward; prices are about the same; prospect good. Price of dairy products the same as usual. There is a short supply of good cows. Pastures are looking well, but need rain. A few farmers irrigate with a spraying system. A small frost on the 10th, did slight damage to beans.

Uxbridge (Everett D. Robinson). — The codling moth and elm-leaf beetles are the most injurious insects. Indian corn is growing rather slowly on account of cool weather; the acreage is the same as last year. Early grasses are being cut. Newly seeded pieces are looking well, but old ones will cut light crops. Quantity of dairy products is small; price the same. Dairy cows are very scarce and high priced. Condition of pasturage is very good. We need a little more rain. Outlook for apples is good. Two damaging frosts during the week beginning June 2 injured corn and garden stuff planted in low places.

Mendon (J. J. Nutter). — Potato beetles are doing damage. Indian corn is looking very well, with more than an average acreage. Haying has not begun; prospect for the crop is very good. The acreage of early potatoes is the same as in previous years. Not many market-garden crops raised. Quantity and price of dairy products and the supply of dairy cows are about the same as usual. Pasturage is good. Frost has done some damage in certain sections.

MIDDLESEX COUNTY.

Dunstable (A. J. Gilson). — Black squash bugs and potato beetles have appeared in large numbers. Indian corn is about two weeks late, but is looking well and about the same acreage as in previous years. Haying has not begun to any extent; the prospect is for not more than a medium crop. Early potatoes are raised principally for home use, while late ones were planted in excess of former years and are looking well. Early market-garden crops about the same in yield and price of former years. The quantity of dairy products is somewhat below that of former years and the price a little higher. Dairy cows are in small supply. Pastures are fast drying up. Blackberries promise a good crop; strawberries light. No frosts.

Westford (J. W. Fletcher). — Injury is being done by gypsy moths. Indian corn is looking well; the acreage is about double. Haying has not begun; prospect is for a good crop. Acreage of early potatoes is about the same. Quantity and price of dairy products and the supply of dairy cows are as usual. Pasturage is good.

Outlook for fruits and berries is very good. No frosts have occurred.

Littleton (Geo. W. Sanderson). — Brown-tail and gypsy moths are doing the most damage. Indian corn is in good condition, with a larger acreage. Haying has not begun; prospect is for a good crop. Early potatoes are of about the same acreage and promise well. Quantity and price of dairy products and the supply of dairy cows are about the average. Pasturage is in good condition. The outlook for early apples is good, but for winter fruit not so good. Irrigation is practiced scarcely any. Frosts have occurred within two weeks, damaging tomatoes and beans.

Billerica (E. F. Dickinson). — Brown-tail moths are less troublesome than last year, but gypsy moths are especially injurious. Indian corn is below the average in quality, and less has been planted. Some green rye and clover have already been cut. The main hay crop is hardly up to average. There is a full acreage of early potatoes; a poor start was made, but they are looking better than the corn. The season has been unfavorable for growth of early market-garden crops, but the prices are good. Pastures are in excellent condition. A fair crop of strawberries is now being gathered; apples promise a medium crop; pears and peaches a very light crop; plums medium. Early June was marked by several frosts; beans and tomatoes suffered most, but not much corn was damaged. Two neighbors report that pheasants have been scratching out their corn.

Maynard (L. H. Maynard). — Elm-leaf beetles, gypsy moths and potato bugs are doing some damage. Indian corn is late and looks bad for this time in the season. Acreage is about an average. A very few are cutting some hay of good quality; some fields will be light. The acreage of potatoes is about as formerly; many pieces are suffering for the want of rain. Market-garden crops are about an average. Milk has been a little short, owing to dry weather. Pastures have been good, but are getting dry. The outlook is good for all small fruits. A very slight frost on the 13th did not do any damage to speak of.

Lincoln (C. S. Wheeler). — Gypsy moth fighting is still in order. Indian corn needs warm weather, with rain. Haying is fairly under way; prospect for the crop, especially on well-cared-for ground, is good. Acreage of early potatoes is about an average and promise is for a good crop. Prices of market-garden crops are good, but the crops are late. Milk is quite plentiful. The supply of good cows is limited. Pastures are in good condition. The outlook for strawberries is fair, but there are not very many other berries. Irrigation is practiced to a limited extent outside of the greenhouses, practically all the water being taken from the town supply. There was some frost in the lowlands.

Winchester (S. S. Symmes). — Cutworms are very bad and a

green worm is eating the maples and oaks. No Indian corn raised. Haying has begun and there will be a fine crop. Early potatoes promise a good crop; they are already in bloom; the acreage is about the same. Early market-garden crops are a little backward, but yield is good; prices are lower on bunched beets. There are few cows in town. Pasturage is beginning to get short. Apples and pears did not set well; peaches are very scarce; strawberries a light crop. Only a few farmers irrigate. Frost on the 8th cut off some beans. Farming in this locality is being driven away. Short hours (forty-four per week) for mechanics and very high pay per hour make the hours of the farm laborers very unpopular.

Marlborough (E. D. Howe). — Hundreds of apple trees are being stripped by tent caterpillars and brown-tail moths. Indian corn is very backward. Ensilage corn is still being planted. Haying has begun; most farmers will get about 75 per cent of the average crop. A normal amount of early potatoes has been planted and the crop is looking well. There is not much early truck grown. Quantity of milk nearly equals the demand, at an advance of 1 cent per quart retail. Cows are scarce and high. Pastures are in better condition than for several years. Strawberry crop is good; raspberries and blackberries are setting full. Slight frosts about June 8 injured corn slightly; tomatoes the most.

Newton (G. L. Marcy). — Most damage is being done by cutworms. Indian corn is looking well and the acreage is the same. Haying has begun, and the prospect is for a good crop. Prospect for early market-garden crops is good. The quantity and price of dairy products and the supply of dairy cows are about the same. Pastures are in good condition. Irrigation is practiced slightly. No frosts.

Hopkinton (W. B. Thompson). — Potato bugs are proving injurious, but not in any quantity. Corn looks well; a full average acreage, but a trifle late in planting. Haying has begun; there is a fair crop, but the dry weather is affecting it. Not many early potatoes raised. Not much early market-garden truck. The price of dairy products is lower, but milk is short. The supply of cows is likewise short. Strawberries are poor, the dry weather of last year having hurt them; raspberries look like a good crop. No damage by frost since last report.

ESSEX COUNTY.

Amesbury (F. W. Sargent). — Brown-tail and gypsy moths are proving most injurious; a few leopard moths are seen. Indian corn is very backward, with less planted than usual. Haying has not begun, but a large crop is promised. There is about the usual acreage of early potatoes; the crop is backward. No early market-garden crops to put on the market as yet, other than asparagus. Milk

is sold mostly to local routes and the supply is good. Pasturage is excellent; plenty of wet weather has made good feed. The outlook for strawberries is good; less than 50 per cent of a normal crop of apples promised. Slight damage from frosts, but cold nights have checked growth. Nothing appears to show up well but grass.

Merrimac (S. Bixby Sargent). — Brown-tail moths are proving most injurious. There is about the usual acreage of Indian corn; that planted early has grown slowly, and the late planted has not come up well. Some hay has been cut; a good crop, but not what it promised earlier. Not much change in the acreage of early potatoes; the crop promises well. There is not much surplus milk and no change in price. Pasturage has been good, but is getting short now. About the 10th there were three frosts in low places, which killed beans and tomatoes.

Haverhill (Milton A. Corliss). — Gypsy and brown-tail moths are doing considerable damage. Indian corn is backward on account of cool weather; acreage is normal. Haying has begun a little, and the crop is a little more than normal. Decrease in acreage of potatoes; crop looks well in spite of dry weather. Market-garden crops look well and prices are high. Quantity and price ($0.38 per can) of milk same as last year. Cows are high and scarce. Pasturage is in good condition. Strawberries and blackberries are doing well. Frosts damaged beans to some extent on low ground.

Methuen (Frederick A. Russell). — Tent caterpillars and gypsy moths are proving injurious. Very little Indian corn raised, sweet corn and ensilage corn being the principal kinds. No haying has yet been done; promise for the crop is less favorable than in May. Acreage of early potatoes is about as usual; the crop is looking well. Market-garden crops compare favorably in yield and price with those of former years. The quantity and price of dairy products are about the same as in the past few years. The advance in price of beef has somewhat advanced the price of dairy cows. Pastures are in fair condition, but need rain. Strawberries look well; early apples promise a good yield; other fruits will be a light crop. Irrigation is practiced somewhat among market gardeners; pipe and hose system is generally used; the Skinner system is also used. No serious damage from frost.

Rowley (D. H. O'Brien). — Gypsy and brown-tail moths, potato bugs, cutworms and flea beetles are doing damage. Tent caterpillars stripped many trees soon after the leaves started and before spraying had been done. Indian corn is looking poorly; the acreage is a little above the average. Haying has begun, with less than a normal crop. The acreage of early potatoes is less, with prospect poor. Yield of market-garden crops poor; price high and prospect for those not yet harvested rather poor. Quantity of dairy products scarce; butter is high; milk at wholesale cheaper than it should be.

Price of dairy cows high. Pasturage quite good. Few peaches and plums; apples about half a crop, owing to neglect of trees. Frosts in the second week of June entirely ruined some fields; also damaged blueberries.

Topsfield (B. P. Pike). — Brown-tail and gypsy moths are doing damage. Indian corn is very backward, with no increase in acreage. Haying has just begun, with not more than an average crop. Not many early potatoes planted; crop backward. Early market-garden crops are looking fairly well, with few harvested. Quantity and price of dairy products about the same as last year. Cows are high. Pasturage has been good, but is getting short. Not many berries grown for market; strawberries a short crop. Frosts on the 8th and 10th killed tomatoes and beans. The sharp drought at present is ripening hay too soon.

Wenham (N. P. Perkins). — Squash bugs, black and yellow cutworms, potato bugs, tent caterpillars and carrot lice are proving injurious. Considerable more than usual acreage of Indian corn has been planted, but the crop is backward. Haying has commenced; some farmers are rather disappointed, as yield is not as good as expected. Acreage of early potatoes about as usual. No early market-garden crops to sell as yet, except bunched beets and spinach; prices will be fair for a while. Price of milk about the same as last year. Medium cows and good supply, but good cows are hard to get. Pastures are beginning to pinch for lack of rain. Strawberry picking has commenced, with prospect for a fair crop; other berries have started well. Irrigation is not practiced to much extent. Damage from frost has been local and with varying severity. Many crops have been planted throughout the month because of cold April and May.

NORFOLK COUNTY.

Millis (E. F. Richardson). — Gypsy moths, tent caterpillars and potato beetles are doing damage. Indian corn is good, but backward. Haying has begun a little; the crop is light. Potatoes look well, with a larger acreage than usual. Early market-garden crops compare well with former years in yield and price. Quantity and price of dairy products and the supply of dairy cows are about the same as in former years. Pastures are in fair condition. Outlook for apples is good; for pears fair; for peaches minus. Irrigation not much practiced. No very damaging frosts.

Norwood (Frank A. Fales). — Potato bugs are plentiful; cutworms have done the most damage. Indian corn is looking well, but is two weeks late; acreage is increased 25 per cent. Haying has begun, with 30 per cent increase in crop over 1911. The acreage of early potatoes shows an increase of 25 per cent over average of last five years. The yield and price of market-garden crops are

about the same, with fair prospects for those not yet harvested. Price of milk is same as last year, but dairy cows are higher. Pasturage is in fair condition, but needs rain. Strawberries are a good crop; currants more than the average. Two light frosts occurred, with not much damage.

Foxborough (Wm. E. Perkins). — Indian corn is looking fairly well, but is rather late; acreage about normal. Haying on the uplands has begun, with prospects for a good crop. Very few market-garden crops raised now. Cows are high. Milk is plentiful; price the same as last year. Pastures will need rain soon. Frost on the 10th damaged potatoes, beans, corn, grape vines and tomato plants.

Randolph (Rufus A. Thayer). — Potato beetles prove most injurious. Indian corn is looking fine, but is rather small; about the usual amount planted. We have a good crop of grass, but little hay is in yet. Potatoes look well, but not many are grown. Market-garden crops are looking well, with prices good. Milk supply is very good; price fair. Cows are very high. Condition of pasturage is excellent. Very few fruits grown; raspberries promise well. Garden hose is used to irrigate to some extent. No frost of any account.

Beechwood (Ellery C. Bates). — A small amount of damage being done by tent caterpillars. No Indian corn raised. Haying has begun, with the prospect for a good crop. Acreage of early potatoes is normal, with good promise for the crop. Early market-garden crops are normal in yield and price; prospect for those not yet harvested good. Outlook for strawberries is good. No frosts.

BRISTOL COUNTY.

Easton (Wm. N. Howard). — Cabbage maggots, potato bugs and rose bugs appear to be more plentiful than usual. Indian corn is looking well; the acreage is about normal. Haying will begin from the 24th to the 30th. The crop on extremely high lands and extremely low lands will be below a big one, but will be extra good on medium elevations. Early potatoes are not a specialty; many are in favor of late plantings. No early garden truck raised; prospects for late garden truck are good. Milk appears to be in reasonable abundance. Condition of pasturage is very good. Good crop of strawberries is being harvested; fair crop of orchard fruits is the prospect. Slight damage by frost.

Attleborough (Isaac Alger). — Potato beetles are doing damage. Indian corn looks well, and there is a larger acreage. Haying has not begun; prospect for the crop is fair. Acreage of early potatoes is about the same; the crop looks well now. Prices of early market-garden crops are a little stronger than in former years. Quantity and price of dairy products and the supply of dairy cows remain

about the same. Pasturage is in fair condition. Strawberries are a small crop. Have had several frosts, with some damage.

Seekonk (John W. Peck). — Striped fly on cucumbers and small fly on tomatoes are all that trouble us. Indian corn is grown mostly for silage; that intended for shelling is very backward. Haying has not begun, but the prospect for the crop is very good. Acreage of early potatoes is 25 per cent larger than in previous years, and the promise for the crop is very good. Early market-garden crops have been very good in yield and in price, but prices will drop fast now. Quantity of dairy products is less than in former years and prices are high. Dairy cows are scarce and high. Pasturage is extra good on low ground, but is getting dry on high. Apples, pears, strawberries, blackberries and cherries are the principal fruits grown, and for them the prospect is good. Irrigation is in its infancy; there are only three farmers who are irrigating to any extent; two are using the Skinner system and the third one will soon. No frosts in this immediate vicinity; few serious ones are reported from points two miles away. The month of May was cold and rainy, and nights in June have been cold.

Rehoboth (Adin B. Horton). — Cutworms are doing less damage than last year. Corn is looking well at present, but is rather backward, with a small increase in acreage. Not much hay has been cut, but the crop is normal. Acreage of early potatoes is about the same as in previous years; crop is looking well, but needs rain. The yield of early market-garden crops is about the same as in previous years; price is above normal. Prospects are good for later crops. Quantity and price of dairy products are about the same as in former years. Dairy cows are scarce and high. Condition of pasturage has been good up to the present, but rain is needed badly. Strawberries are a little better than half a crop; apples and pears about half a crop, compared with last year; currants not more than half a crop; peaches practically a failure. Very little irrigation in this locality. Frosts on the 9th and 14th did some damage to potatoes, cucumbers and cranberries in low places, but were not extensive.

Acushnet (M. S. Douglass). — Cutworms, cucumber and potato beetles are proving most injurious. Indian corn is looking well; acreage increased one-quarter over that of a few years ago. Haying has begun and there will be a normal crop. One-quarter more potatoes planted than last year; those planted early promise a good crop. Prices of early market-garden crops are lower than last year. The crop of asparagus was only two-thirds of normal. Price and quantity of dairy products have both increased over former years. Supply of cows is limited and price is high. Pastures need rain. Strawberry crop will be short, on account of drought; raspberries promise well. Frosts occurred on the 9th, 10th and 14th, freezing

corn, potatoes, beans, squashes and tomato plants on low lands. Peas are not filling out well.

Swansea (F. G. Arnold). — Tent caterpillars are proving injurious. Acreage of Indian corn is a little more than usual. Early plantings look well; late plantings show effects of dry weather. Haying has begun and the crop will be fair. Early potatoes are less in acreage, but promise a fair crop. Few early market-garden crops have been harvested; prices are good. Milk is in short supply and 1 cent per quart higher than last year. Good cows are scarce and high. Pasturage has been very good, but begins to show the effects of dry weather. Strawberries have been a good crop; other small fruits and peaches, apples and pears will be scarce.

PLYMOUTH COUNTY.

Norwell (Henry A. Turner). — Damage is being done by tent caterpillars and currant worms. Indian corn is a little late. Haying has begun, and there is prospect for a normal crop. Potatoes are looking well and promise a good crop. Prospect is good for market-garden crops. Not much attention paid to dairy products in this locality. The outlook for strawberries is good; blueberries promising; currants good. Irrigation is not practiced much in this region. A frost on the 10th damaged garden stuff a little and killed beans to some extent.

Campello (Davis Copeland). — Cutworms and black fleas are proving injurious. Indian corn is a little late, but looking well; rather more planted than the few past years. Haying has not begun; prospect for the crop is good on uplands; lowlands have been too wet. Acreage of early potatoes is about the same, and the crop is looking well. Early market-garden crops are yielding about as usual; prices are rather low. Milk is short; price about the same. Sales of good cows not plenty. Pasturage is in fairly good condition. Strawberries are doing well. Very little irrigating done. No frosts.

Kingston (Geo. L. Churchill). — Injury is being done by caterpillars. Corn is looking well, but is rather backward. Acreage is about the same as last year. Haying has begun and there is an average crop. Acreage of early potatoes is larger than in previous years, and the promise is for a large crop. Market-garden crops about the same in yield and price as in former years. Quantity and price of dairy products and the supply of dairy cows are about the same. Pasturage is in good condition. The outlook for fruits and berries grown for market is good. Have had three or four light frosts in different places.

Plympton (Winthrop Fillebrown). — Tent caterpillars are very bad; cutworms, potato bugs and squash bugs are in evidence. Indian

corn is looking very well. Haying has begun; there will be a medium crop. Early potatoes are looking excellent, with about the usual acreage. Market-garden crops suffered badly from frosts on the 10th and 14th; prices are good. Dairy products are about the same as last year in supply and price. Cows are 10 to 15 per cent higher in price. Pasturage is in good condition, but will soon be short if the present drought continues. Large fruits will show a good crop; small fruits and cranberries suffered badly from frost. No irrigation is practiced except open ditches on cranberry bogs.

Lakeville (Nathaniel G. Staples). — Rose bugs and potato beetles are doing the most damage. Indian corn is not looking as well as usual at this time of year; acreage has increased one-fourth over previous years. Haying has begun and the prospect for the crop is good, although the dry weather is beginning to hurt it some. Acreage of early potatoes is about as usual; the crop is looking well. Not much change in price or quantity of dairy products. Dairy cows are scarce. Pastures are in fair condition. Strawberries are yielding well; there will not be much fruit this season. There have been some frosts; one on June 3 did considerable damage.

Rochester (Geo. H. Randall). — Cutworms and potato bugs are proving injurious. Indian corn is small; slow in germinating; acreage is about as usual. Haying has begun, but the crop is not as good as expected. Acreage of early potatoes is equal to the average; crop is looking fine, but needs rain. Market-garden crops planted early are much better than those planted late; prices are very good. Price of dairy products is about the average. Not many cows for sale and the demand is limited. Pastures have been very good, but are getting short. Strawberries are a short crop; raspberries will be a very small crop; currants and gooseberries good; plums and peaches light. Frosts on the 10th, 11th and 14th did considerable damage in places to corn, potatoes, beans, tomatoes and cranberries. The hay crop will not be more than three-fourths of what it promised a month ago.

BARNSTABLE COUNTY.

West Falmouth (D. R. Wicks). — Potato beetles are doing some damage; insects are as plentiful as usual. Corn shows a very poor stand but a large increase in acreage; most of it has been replanted. Haying has begun, with promise of a bumper crop. About as many early potatoes planted as usual, but the crop came up very irregularly. No early market-garden crops harvested as yet. Everything is late, but beginning to show up better. The prices of dairy products and of cows are higher than in former years. Pasturage is holding out on some farms, but it needs rain. Gooseberries and currants not plentiful; red raspberries promise well; strawberries are a good crop. Have not heard of any frosts. Season has been back-

ward for everything except grass. Seeds have rotted in the ground and many fields have been planted over. Now a dry time is on and seeds do not come up.

Barnstable (JOHN BURSLEY). — Cranberry insects, tent caterpillars and potato bugs are very much in evidence. Indian corn is very small for the season and much of it not even hoed; acreage equal to the average. Half of the hay crop has been secured; crop is light. Slight increase in acreage of early potatoes; crop is looking well, though needing rain. Very little early garden truck marketed at this date. Peas are sufferng for rain. Milk prices advancing, and prices of cows as well; 15 per cent increase over 1910. Pasturage needs rain very much. Strawberries are a late crop; cranberries were damaged by frost. No irrigation except in cranberry bogs. Two frosts, one late in May and the other early in June, that caused damage.

Dennis (JOSHUA CROWELL). — Cutworms and cranberry vine worms proved injurious during the first half of the month. Indian corn is a little late, but looking fair, with not much change in acreage. Haying has begun, with the largest crop in many years. Acreage of early potatoes is normal; crop is rather backward, with fair promise. Asparagus was better than the average. But little change in quantity and price of dairy products, excepting an advance of 1 cent per quart in milk. Pasturage is in good condition, but beginning to feel the dry weather. Strawberries show a good yield, with fair prices. Irrigaton is practiced very little. Frosts on the 14th and 15th did slight damage, except in a few localities, and mostly to cranberries.

Truro (JOHN B. DYER). — Usual damage being done by insects. About the same acreage of Indian corn as heretofore, but the acreage is not large, other crops being considered more profitable. Haying has begun, with a good crop. Early potatoes show an average acreage; promise for the crop is fair. Yield of early market-garden crops is an average; prices rule well. The supply of dairy products and dairy cows holds its own with former years, but prices of milk, etc., are on the increase. Pasturage good until now; dry weather threatens. Strawberries are a good crop; prospect is good for pears and apples. On the 14th a deadly frost did damage to early gardens, but fortunately did not seriously damage the cranberry crops.

DUKES COUNTY.

West Tisbury (GEO. HUNT LUCE). — Potato beetles and cutworms are doing the most damage. Indian corn is looking well, with an average acreage. Haying has begun on new meadows, where the crop is an average; on old meadows the crop is rather poor. Acreage of early potatoes is an average. Dairy products are average in supply.

but prices higher than in former years. Cows are scarce and high. Pastures are in good condition. Outlook for fruits and berries rather slim. Damaging but not very extensive frosts occurred on or about the 10th or 12th. Unless we have rain soon, damage to crops will be done.

NANTUCKET COUNTY.

Nantucket (H. G. Worth). — Cutworms, tent caterpillars and potato bugs are proving injurious. Indian corn is looking well, with increased acreage. Haying has begun; prospect for the crop is fair. Potatoes look well, with an average acreage. Yield and price of early market-garden crops are equal to former years. With rain soon, prospect for those not harvested is good. Price of dairy products is a little better. Good cows are scarce. Pasturage is in good condition. Outlook for cranberries good. No frost to hurt anything.

BULLETIN OF

MASSACHUSETTS BOARD OF AGRICULTURE.

IRRIGATION IN MASSACHUSETTS.

METHODS, COST, RESULTS.

By Mr. Henry M. Howard, of West Newton, Mass.

In order to plow a straight furrow it is absolutely essential for the plowman to keep his eye on a certain point toward which he is working. So, in studying the irrigation problem, it is just as essential that we see clear through to the results which we are aiming for, and that we never lose sight of them. These results are larger crops of better quality.

By using good judgment and proper methods a man can supplement a scant rainfall so as to attain these results to a very large degree. If the farmer has already made all other conditions favorable to crop development, save that very important one of moisture, it is surely up to him to make that condition correct as well.

Without water no plant or animal life can grow and develop. Water is indispensable to all life. Water is a food and also carries food. All food for plants or animals must be in solution before it can be assimilated by them. Another fundamental use of water is its property of cooling the surface of plants and animals as it evaporates from them. Both of these uses of water find their fullest application in irrigation operations.

Water falling as rain or snow is in the best possible form for the earth to receive it. It falls slowly and works its way down into the subsoil from which it will be drawn again by the sun and by capillary action.

The amount of water a soil will hold depends upon two things; first on the size of the soil particles and second on the amount of humus in the soil. The soil water which is available to the plant is that which is clinging to each soil particle. The finer these particles, the greater is the capacity of the soil to hold water. Gravels and sandy soils have larger soil particles than the loams and clays. Soils

which are full of manure contain large quantities of humus which will hold a great store of moisture.

Cultivation and hoeing preserve the soil moisture. Horse cultivation to preserve moisture should be not over 2 inches deep, and as often as once in five to seven days. This 2 inches of soil mulch has its particles so separated that capillary action is prevented and the moisture is kept stored down where the root system can make use of it. Cultivation and hoeing, to be most beneficial, must be done often so that the soil mulch will be kept dry, and are just as essential in a wet season to prevent disease as they are in a dry one to promote growth. In a wet season poor cultivation allows the root system to develop near the surface, and then when a dry spell comes and cultivation is begun, so many roots are destroyed that development is arrested and disease invited.

The roots of plants go down 4 feet or more and extend laterally in all directions. Coming in contact with soil water they take it up with all it contains and carry it to the leaves where digestion and growth take place. When we apply water to a crop we want to get that water down. We are aware that very often little summer showers add no water to the available moisture in the soil, for they do not get down below the soil mulch where the root system is at work. We know that the shower does cool the surface of the plants and improves the climatic condition. When we apply a small amount of water with a hose we are more likely to injure than to improve the crop, because the soil mulch is spoiled. Firming or rolling the surface of land, after seeding, is done to promote better capillary action and bring up water enough to germinate the seed. As soon as the crop is up cultivation begins and we aim to produce the soil mulch and preserve the soil moisture.

The foregoing remarks in regard to the uses and movement of water in the soil are made so that all may know and understand the reasons for our ordinary farm practice, and so that those who do not irrigate may be encouraged to cultivate even more diligently than they do at present.

On many farms there is a good supply of water. A brook may be turned aside from its course, and by means of large and small ditches made to irrigate quite large areas. A canal may draw water from some river or pond and be made to serve the same purpose. The cost for dams, canals and ditches is small compared with the value of the results obtained. The writer has in mind several farms where acres of grass land are thus watered, and where the water certainly increased the crop of hay 2 tons per acre, and made the rowen crop profitable.

Flooding the land is practiced on hundreds of acres of sugar beets and pasture lands about Salt Lake City, Utah. The water comes down from the mountains in great flumes and is used to flood the

lands for days at a time. The dairy farmer of Massachusetts who can irrigate his mowing by any such easy methods should certainly do so. The cost of dams, ditches and maintenance on one of the farms above mentioned, where over 7 acres were irrigated, was less than $100 for a period of ten years, or about $1.43 per acre per year. The increase of the crop due to irrigation was estimated to be 2 tons per acre per year. With such cost and results as these the use of water for irrigating mowings becomes a very attractive proposition. The general farmer will probably never irrigate much. It is for the market gardener a continual study and practice: he must irrigate more or less every year, and needs to be well equipped to do it economically.

There are three principal methods employed: running in furrows between rows of crops; spraying on the surface from a hose; and spraying on the surface by means of some other mechanical device.

The first method is used on crops like corn, beans, tomatoes, cucumbers and squash, but would not do for lettuce, spinach or radishes. The soil adapted to furrow irrigation must be one which does not absorb too much water, as a large stream would soon disappear in sand or gravel. A loamy soil with a moderate slope would be adapted to furrow irrigation. Water for this style of irrigation would need to be very cheap, as it is not spread over enough surface to be most efficient.

The second method, of spraying with a hose, has this great advantage, that the largest amount of water can easily be applied where needed most. There are variations in the soil and drainage in many fields, and the man who applies water from a hose can put the water where it is needed. The cost of putting on water by this method should never exceed 10 cents per 1,000 gallons above the first cost of the water. The usual cost of applying will be found to be much more rather than less because of poor service, poor piping or defective valves or hose. This cost of applying water has set men to figuring on mechanical labor-saving devices, several of which have been invented and experimented with.

This brings us to the third method of irrigating, namely, the use of mechanical devices, stationary, semi-stationary and whirling. The whirling deliver the water in circles, as is also done by the stationary, and each of these have to be moved often to do good work. In general, the smaller the stream from these devices, and the longer continued the application, the better will be the results. The water being applied over a long period results in a more thorough wetting and a more favorable climatic condition, and the fine spray will not injure the foliage.

The semi-stationary type of irrigation is well illustrated by what is known as the Skinner system. By this system water is delivered in very fine streams, $\frac{1}{32}$ of an inch in diameter, and with a pressure

of 50 pounds will be carried 28 to 30 feet from the nozzle, and will be well spread by the currents of air.

The water used for irrigation on most market garden farms is obtained from the town or city supply, and is the service to be recommended where it can be secured. The pressure and supply are constant and can be relied on at any time. However, where there is a large area to be irrigated one will always find a private pumping plant in operation.

In laying pipe for irrigation use common black pipe for mains. Lay it on the surface of the ground along head lands or roadways. Have flange unions at convenient intervals and tees with valves every 55 or 60 feet for taking off laterals. Use good gate valves, and avoid short, sharp turns in the mains by using long bends. Where hose irrigation is to be practiced the laterals should be of ¼-inch pipe, and hose connection valves set at such intervals as to make it possible to cover the whole space between valves with a 50-foot hose. A path 2 feet wide should be left at the side of each lateral in which to run and coil the hose. A little advantage will be obtained by running the laterals east and west because the prevailing winds in summer are southerly.

When about to irrigate have the hose in a coil, attach the female end to the valve, and roll out 8 paces. Then turn and roll back to valve, thus avoiding a twist in the hose. Have a soft end or a nozzle for the hose so as to spread the water. With the nozzle in one hand, open the valve with the other hand; water all one side of the path going out, and all the other side coming back. In moving from valve to valve either coil and carry the hose or drag it. With care very little damage need be done. When through the hose should be coiled and put in the shade. Valves should be set up tight but not too hard. If necessary screw in a plug rather than set the stem of the gate too hard.

The cost of fitting up 1 acre for hose irrigation would not be far from $65, and the cost for each additional acre about $50. After having fitted up one-third of the total area you wish to irrigate, the other two-thirds can be cared for by moving the piping until such time as you wish to invest money in more pipe and fittings.

The cost of installing the Skinner system of irrigation will be just about the same per acre. This system seems to be becoming more and more popular over the whole country and, with the improvements being made from time to time, seems to leave little to be desired in the economical distribution of water. The laterals for this system should be of galvanized pipe tapped every 4 feet for a nozzle. The size of pipe for a lateral of 250 feet should be: for the first 150 feet, 1 inch; for the last 100 feet, ¾ inch. These laterals should be 50 to 56 feet apart and run east and west. They are connected with the mains by a special union fitting with a

strainer, so as to remove all dirt and scale from the water and enable the operator to set the nozzle line to throw the water at any angle desired. The outlet of each nozzle is 1/32 inch in diameter. The currents of air break up these small streams so that most of the water reaches the soil as a very fine mist. By using this system of irrigation water may easily be applied all night, and in a period of eight and a half hours an inch of water be evenly distributed over an acre. It takes 27,152 gallons of water to cover an acre 1 inch deep, and this is usually enough water to apply at one time. If put on with a 1¼-inch hose it would take a man a little over five and a half hours to cover the acre.

There is seldom a year that it is not necessary to irrigate some. An application of 1 inch a week during the three summer months to almost any crop would usually prove very profitable. At 30 cents per 1,000 gallons, the cost would be a little over $8 for each application. If one has his own water supply and good economical engine and pump he can apply an acre-inch for less than $2. (An acre-inch is the number of gallons required to cover an acre of land 1 inch deep.) An outfit to be economical must be in good running order and possess a high per cent of efficiency; that is, if the pump is rated to deliver 90 gallons per minute it should come very close to doing so.

Water should be applied to the soil before plants show any suffering for want of it. The best time of day to apply water is between 6 o'clock P.M. and 6 o'clock A.M., as there is then less evaporation, and more water gets down to the subsoil where the roots can get it. The next best time to apply water is on a drizzly or lowery day. It is better not to water during a showery day. If a crop is being injured by a very burning wind it is time to get busy, and spray on enough water to prevent further injury. Good cultivation must be combined with irrigation to make the latter pay.

Too much water may easily injure crops early and late in the season, but in midsummer there is very little danger of giving too much water. In regard to buying an equipment: purchase pipe, hose and fittings of some good wholesale house, and get enough piping tools to instal the equipment yourself. Get all nozzles and fittings for the Skinner system from the only company that makes them, at Troy, O.

In summing up it may be said that irrigation vastly improves the quality and quantity of crops, increases the profits, and gives the satisfaction that comes from growing the best and biggest crops.

SERIES OF 1912. VOL. 25. NO. 3.

Massachusetts Agricultural College

MASSACHUSETTS CROP REPORT

FOR THE

MONTH OF JULY, 1912.

SILOS AND SILAGE.

ISSUED MONTHLY, MAY TO OCTOBER, BY STATE BOARD OF AGRICULTURE, STATE HOUSE, BOSTON, MASS.

J. LEWIS ELLSWORTH, *Secretary.*

ENTERED JUNE 3, 1904, AT BOSTON, MASS., AS SECOND-CLASS MATTER, UNDER ACT OF CONGRESS OF JUNE 6, 1900.

BOSTON:
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
18 POST OFFICE SQUARE.
1912.

Approved by

The State Board of Publication.

Crop Report for the Month of July, 1912.

Office of State Board of Agriculture,
Boston, Mass., Aug. 1, 1912.

The current issue of the Crop Report will be of especial interest to those who are engaged or interested in the dairy industry. The milk situation in our large cities is becoming more and more of a problem, and while it is an established fact that, in food value, milk is worth to the consumer even more than he is now paying, it is also a fact that the price which the producer receives many times does not equal the cost of production. To relieve the tension of the milk situation three results must be accomplished: first, the consumer must be educated to the point where he will be willing to pay for milk in comparison to its real value, as to quality, and as compared to other foodstuffs; second, some system of distribution must be established whereby the cost of bridging the gap between producer and consumer may be reduced; third, the producer must acquaint himself with modern scientific methods, which will enable him to produce larger amounts of a better product at the same or reduced expenditure of time and money. These problems will gradually find their solution. According to our most successful producers of the present day, the silo as a means of furnishing succulent winter feed, and supplementing the scanty feed which pastures offer during the dry summer months, is one of the means of cheaper production. The article in this issue, by H. O. Daniels of Middletown, Conn., one of New England's foremost practical dairymen, deals very forcefully with the subject of "Silos and silage." Coming from a man who is practicing what he preaches, it should drive home the

truth to every dairyman who has any doubt as to the value of this method of feeding for milk production.

Progress of the Season.

The Crop Reporting Board of the Bureau of Statistics of the United States Department of Agriculture estimates, from the reports of the correspondents and agents of the bureau, as follows for the United States: —

Crop.	Acreage, 1912.		Condition July 1 (Per Cent).			Condition June 1, 1912 (Per Cent).
	Per Cent of 1911.	Acres.	1912.	1911.	Ten-Year Average.	
Winter wheat,	88.3	25,744,000	73.3	76.8	80.2	74.3
Spring wheat,	94.2	19,201,000	89.3	73.8	85.6	95.8
All wheat,	90.7	44,945,000	80.1	75.6	82.8	83.5
Corn,	102.2	108,110,000	81.5	80.1	84.6	–
Oats,	100.2	37,844,000	89.2	68.8	84.8	91.1
Barley,	99.3	7,574,000	88.3	72.1	86.0	91.1
Rye,	–	–	88.2	85.0	89.9	87.7
White potatoes,	101.9	3,689,000	88.9	76.0	89.3	–
Tobacco,	117.9	1,194,200	87.7	72.6	84.6	–
Flax,	108.5	2,992,000	88.9	80.9	87.0[1]	–
Rice,	102.0	710,100	86.3	87.7	88.1	–
Hay,	–	–	85.2	64.9	81.4[2]	89.8
Apples,	–	–	67.9	57.9	58.6	72.3

[1] Nine-year average. [2] Four-year average.

The amount of wheat remaining on farms July 1 is estimated at 3.8 per cent of last year's crop, or about 23,876,000 bushels, as compared with 34,071,000 on July 1, 1911, and 35,929,000 on July 1, 1910.

The following gives the indicated yield per acre and comparisons of total production. The indicated yield for 1912 is based upon the ratio of the average condition on July 1 to the final yield in the five years 1906–10.

Crop.	Yield per Acre (Bushels).			Total Production in Millions of Bushels.			
	Indicated by Condition, 1912.[1]	Final, 1911.	Average, 1906-10.	1912.[1]	Final, 1911.	Final, 1910.	Census, 1909.
Winter wheat,	13.9	14.8	15.5	358	430	434	418
Spring wheat,	14.1	9.4	13.4	271	191	201	265
All wheat,	14.0	12.5	14.6	629	621	635	683
Corn,	26.0	23.9	27.1	2,811	2,531	2,886	2,552
Oats,	30.1	24.4	28.4	1,139	922	1,186	1,007
Barley,	25.6	21.0	24.8	194	160	174	173
Rye,	16.0	15.6	16.3	–	33	35	30
White potatoes,	95.5	80.9	96.8	352	293	349	389
Tobacco, pounds,	844.9	893.7	828.0	1,009	905	1,103	1,056
Flax,	9.4[2]	7.0	8.7	28	19	13	20
Rice,	31.7	32.9	32.4	23	23	25	–
Hay, tons,	1.4[3]	1.10	1.41	–	47	61	–

[1] Interpreted from condition reports.
[2] Based on average for 1905–09.
[3] Based on average for 1908–10.

General Review of Crop Conditions July 1.

[From the Crop Reporter of the United States Department of Agriculture for July.]

Crop conditions in general on July 1 averaged for the United States materially better (5.9 per cent) than on same date last year, but somewhat lower (1.2 per cent) than the average condition of recent years. The month of June was slightly less favorable for crops than the average June, but much more favorable than June of last year.

The aggregate area of the important crops — corn, wheat, oats, barley, potatoes, tobacco, flax, rice and cotton — in 1912, according to preliminary estimates, is 241,155,000 acres, which is 1.8 per cent less than the estimated area of the same crops in 1911, but 1.9 per cent greater than in 1910 and 6.9 per cent greater than in 1909.

The condition of the various crops on July 1, compared with their average condition (not normal) on July 1 of recent years, was as follows: —

Peaches, 124.1; apples, 115.9; strawberries (production), 111.6; kafir corn, 108; alfalfa, 107.8; hops, 107.1; pears, 106.4; millet, 105.3; oats, 105.2; grapes, 105.1; broom corn, 104.9; hay (all kinds), 104.7; spring wheat, 104.3; Lima beans, 104.1; tomatoes, 103.9; tobacco, 103.7; barley, 102.7; sorghum, 102.3; cabbage, 102.3; flax, 102.2; cantaloupes, 102; hemp, 101.9; watermelons, 101.9; onions, 101.6; peanuts, 100.6; sugar beets, 100.5; cotton, 99.6; potatoes, 99.6; sweet potatoes, 99.4; rye, 98.1; timothy, 98; rice, 98; beans (dry), 97.8; clover hay, 97.1; oranges, 96.8; raspberries, 96.5; corn, 96.3; pasture, 94.8; winter wheat, 91.4; lemons, 91.1; blackberries, 90.4; sugar cane, 89.3.

The general or composite condition of all crops combined on July 1, duly weighted, by States, on the basis of 100 representing average conditions (for most crops the ten-year average), is as follows: —

Maine, 102.7; New Hampshire, 104.5; Vermont, 102.4; Massachusetts, 99.6; Rhode Island, 93.9; Connecticut, 97.9; New York, 95; New Jersey, 91.9; Pennsylvania, 98.1; above division, 96.8.

Delaware, 77.6; Maryland, 107.7; Virginia, 103.4; West Virginia, 108; North Carolina, 101.8; South Carolina, 97.7; Georgia, 90.4; Florida, 96.7; above division, 97.9.

Ohio, 90.5; Indiana, 89.2; Illinois, 91.2; Michigan, 89.8; Wisconsin, 96.7; above division, 91.3.

Minnesota, 102.8; Iowa, 99.6; Missouri, 100; North Dakota, 106.3; South Dakota, 99.7; Nebraska, 96.4; Kansas, 105.9; above division, 101.5.

Kentucky, 98.9; Tennessee, 99.3; Alabama, 96.1; Mississippi, 95.1; Louisiana, 93.7; Texas, 112.1; Oklahoma, 112.1; Arkansas, 97.4; above division, 102.4.

Montana, 99.2; Wyoming, 104.7; Colorado, 109; New Mexico, 109.9; Arizona, 106.9; Utah, 104.3; Nevada, 101.9; Idaho, 104.7; Washington, 105.6; Oregon, 113.5; California, 98.4; above division, 104.

Temperature and Rainfall for the Whole Country.

[From United States National Weekly Weather Bulletin.]

Week ending July 1. — During much of the week high barometric pressure prevailed over the west Gulf and Southern Plains regions, while along the northern border from the upper Lakes westward the pressure was moderately low. Near the middle of the week moderately high pressure developed north of the Great Lakes, which, moving eastward, gave cool weather over the Lake region, Ohio valley and North Atlantic States. At the close of the week the weather was moderately cool in nearly all parts of the country. For the week as a whole the temperature averaged much above the normal over all northern districts from the Lake region westward to the Rockies. Such precipitation as occurred was local in character and fell at widely scattered points. About the first of the week a shallow barometric pressure caused showers in the east Gulf and South Atlantic States, extending northward along the Atlantic coast and southward over the peninsula of Florida later. During the remainder of the week local rains occurred over the southeastern districts, with occasional showers elsewhere. The total precipitation for the week ranged from 2 to 3 inches over much of the middle and eastern Gulf States, and the southern portions of the Ohio watershed and over the Florida peninsula. Amounts from ½ to 1 inch or slightly more occurred near the Gulf and South Atlantic coasts and in the far Northwest, but elsewhere the amounts were everywhere quite small.

Week ending July 8. — At the beginning of the week seasonable temperatures prevailed in the central valleys and Great Plain States, while it was moderately cool in the more eastern districts and quite cool in the Plateau and extreme western districts. As the week advanced there was a general warming up over the northern districts to the eastward of the Rocky Mountains. High temperatures were the rule during the latter part of the week and Sunday in the northern districts. The average for the week was decidedly above nor-

mal from the middle Missouri valley eastward to New England, and over the northern portions of the Middle Atlantic States. It was below normal from the lower Mississippi valley eastward over the Gulf and South Atlantic States. The extremes of temperature were not generally marked. At the beginning of the week unsettled showery weather prevailed in the central valleys and over the southern States. During the latter part of the week local showers occurred at widely scattered points. At the close, scattered thunderstorms were in progress in the Missouri valley, Lake region and southern States. For the week the precipitation was irregularly distributed, but on the whole generous amounts were received in most of the great cereal and grass-growing States. Little or no rain fell during the week in the North Atlantic States and in the eastern part of the Lake region. As compared to normal, there was a marked deficiency over the Atlantic coast districts, and in the Great Plains region and the far Southwest there was a very general deficiency.

Week ending July 15. — Clear skies and warm southerly winds were the rule over much of the country from the Rockies eastward during the early part of the week. Near the middle a change to cooler overspread the Northwest, and more seasonable weather prevailed in the northern districts; but over the eastern, central and southern portions warm weather continued. During the latter part of the week it continued warm over most eastern districts. The average temperature for the week was above normal in a wide area extending from New Mexico and the Rio Grande valley northeastward to the Lake region, Ohio valley, Middle Atlantic States and New England. The extremes of temperature were not marked, save about the middle of the week the maximum temperatures were unusually high in portions of the lower Missouri valley and extreme eastern New England. A drought of considerable severity has prevailed in New England and portions of New York and New Jersey, but the rains of the past week have relieved that temporarily.

Week ending July 22. — The cool wave in the Northwest at the closing of the preceding week moved to the north of

the Great Lakes by Tuesday morning and to northern New England by Wednesday. Much cooler weather prevailed over the northern States during its passage eastward. Early in the week a second area of high pressure appeared in the Canadian Northwest, which by Thursday had extended into the central Plain States, upper Mississippi valley and western Lake region, moving thence eastward to the Middle Atlantic States by Saturday. For the week as a whole the mean temperatures were below the normal over all northern and central districts from the Rocky Mountains eastward. Over the southern districts east of the Rocky Mountains and along the Middle Atlantic coast the weekly means were generally near or slightly above the normal. In the east Gulf States showery, unsettled weather, with occasional heavy rains, prevailed during the early part of the week. By the middle of the week the rainy conditions had extended to the Middle Atlantic States, Ohio valley and portions of the Plains region, and during Thursday night and Friday passed over New England as a storm of moderate intensity. For the week as a whole some precipitation was received in nearly all portions of the country, but the amounts varied greatly.

Week ending July 29. — The week opened with moderate temperatures prevailing in nearly all parts of the country. In New England and the Middle Atlantic States cool weather continued until near the middle of the week. About Thursday cooler weather developed over the Canadian Northwest and moved to the Lake region by Saturday. The average temperature for the entire week was above the normal throughout the Great Plains region, Mississippi valley and southern districts. From the Ohio valley and Lake region eastward over the Middle Atlantic and New England States the temperature was almost constantly below the average. Unsettled weather prevailed at the beginning of the week in the Northwest, and showers were rather general during Monday and Tuesday along the northern border as far eastward as the upper Lake region. During Wednesday and Thursday rainy conditions developed in the Lake region and Ohio

valley. During the latter part of the week the rainfall was confined to scattered showers, principally in the southern Rocky Mountain region, and in the Lake region and North Atlantic States. For the week as a whole there was a marked deficiency in precipitation throughout nearly all the central and southern portions of the country to the eastward of the Rocky Mountains. Fair amounts were received over the States along the border and in portions of the Ohio valley, lower Lake region and Middle Atlantic States. Over much of the southern portion and in parts of New England there was no precipitation during the entire week.

Special Telegraphic Reports.

[Weather Bureau, Boston.]

Week ending July 1. — New England. Boston: No appreciable rain fell during the week. The ground is becoming dry, except in the lowlands, and rain is much needed. The month just closed was the dryest June for nearly forty years. The temperature averaged above normal, with abundant sunshine.

Week ending July 8. — New England. Boston: No rain occurred in most portions and the temperatures were high. Strong drying winds have increased the severity of the drought, which has caused great damage to growing crops and will result in complete loss unless rain occurs soon. The fields are brown, except the meadows.

Week ending July 15. — New England. Boston: High temperatures prevailed during the greater part of the week, but heavy showers relieved the drought. Conditions are now favorable.

Week ending July 22. — New England. Boston: Heavy rains occurred during the past week, and were of great benefit. The ground is now in excellent condition. Temperatures were generally seasonable.

Week ending July 29. — New England. Boston: Generally fair weather prevailed throughout the week. Conditions were favorable, except that it was rather cool at night.

Publications.

The Crop Report for June, copies of which may still be obtained from this office, contains an article on "Irrigation in Massachusetts. Cost — Methods — Results," by Henry M. Howard of West Newton, Mass., and also a list of the bushel weights of certain commodities.

The premium list of the first Massachusetts Fruit Show, to be held November 7–10, inclusive, in Horticultural Hall, Boston, under the auspices of the State Board of Agriculture and the Massachusetts Fruit Growers Association, is ready for distribution, and copies of the same, with entry blank, will be mailed to all applicants. There is a very attractive list of premiums.

The premium list of the New England Corn Exposition is also available, and copies of the same may be secured by applying to the secretary of the exposition, Mr. G. E. Stickney, Newburyport, Mass. The dates upon which the exposition will be held are November 20–24, inclusive.

Agricultural Fairs, 1912.

Amesbury and Salisbury at Amesbury, September 24, 25 and 26.
Barnstable County at Barnstable, August 27, 28 and 29.
Blackstone Valley at Uxbridge, September 17 and 18.
Brockton at Brockton, October 1, 2, 3 and 4.
Deerfield Valley at Charlemont, September 12 and 13.
Eastern Hampden at Palmer, October 4 and 5.
Essex at Topsfield, September 17 and 18.
Franklin County at Greenfield, September 18 and 19.
Hampshire at Amherst, September 24 and 25.
Hampshire, Franklin and Hampden at Northampton, October 2 and 3.
Highland at Middlefield, September 4 and 5.
Hillside at Cummington, September 24 and 25.
Hingham at Hingham, September 24 and 25.
Hoosac Valley at North Adams, August 30 and 31 and October 2.
Housatonic at Great Barrington, September 24, 25, 26 and 27.
Lenox Horticultural at Lenox, August 21 and 22 and October 23 and 24.
Marshfield at Marshfield, August 21, 22 and 23.
Martha's Vineyard at West Tisbury, August 26, 27 and 28.

Massachusetts Horticultural at Boston, September 13, 14 and 15 and October 4, 5 and 6.
Middlesex North at Lowell, September 12 and 13.
Middlesex South at Framingham, September 19, 20 and 21.
Nantucket at Nantucket, August 21 and 22.
Oxford at Oxford, August 29 and 30.
Plymouth County at Halifax, September 11 and 12.
Spencer at Spencer, September 20 and 21.
Union at Blandford, September 11 and 12.
Weymouth at South Weymouth, September 12, 13 and 14.
Worcester at Worcester, September 2, 3, 4 and 5.
Worcester East at Clinton, September 10, 11 and 12.
Worcester North at Fitchburg, October 10, 11 and 12.
Worcester Northwest at Athol, September 2 and 3.
Worcester South at Sturbridge, September 12 and 13.
Worcester County West at Barre, September 26 and 27.

Summary of Crop Conditions.

In the circular to correspondents, returnable July 24, the following questions were asked: —

1. What insects are proving most troublesome in your locality?

2. What is the condition of Indian corn, and what proportion of the crop is grown for ensilage?

3. What is the quantity and quality of the hay crop as compared with former years?

4. What forage crops are being raised, and what is their condition?

5. What is the condition of the market-garden crops, including potatoes, and how have those already harvested compared in yield and price with former years?

6. What is the prospect for apples, pears, peaches, plums, quinces, grapes and cranberries?

7. What is the condition of pasturage?

8. How have rye, oats and barley compared with former years, both as grain and forage crops?

9. Have any new apple orchards been set in your town during 1911 and 1912, and if so what is your estimate as to the number of acres?

10*a*. What proportion of the dairy farmers in your lo-

cality make use of the silo, and how does the number compare with ten years ago?

10*b*. What crops other than corn are used for ensilage, and to what extent?

Returns were received from 128 correspondents, from which the following summary has been compiled: —

Insects.

In a way the report on insect damage to crops was surprising. Of the most injurious insects the reports were as follows: potato beetle, 75, fairly evenly distributed over the State, but showing more plainly in the western half; elm-leaf beetle, 20, reported mostly from Worcester and Middlesex counties, and slightly in all others except Berkshire, Barnstable, Dukes and Nantucket; plant lice, 11, — 4 from Middlesex, 3 each from Worcester and Bristol, 2 from Barnstable, and 1 each from Norfolk and Hampden counties; squash bug, 9, from Hampshire, Hampden and Worcester counties; brown-tail and gypsy moths, 9, from the eastern counties; squash borer, 6; cutworms, 5; and scattering reports of damage by other insects.

That the potato beetle is reported by so many as proving the most troublesome is due, first, to the facts that potatoes are grown by nearly every farmer, and the insect is as widely distributed, and, second, to the fact that farmers do not spray early and often enough. An ounce of prevention in this case is worth a pound of cure. The first spraying should be done before or as soon as the adult beetles lay their first set of eggs, surely before the eggs have hatched; the second and third sprayings, when necessary, should follow at intervals of a week. The second brood is easily controlled in the same way.

Indian Corn.

While a few correspondents report Indian corn as about normal in condition, by far the greater number report it as being two weeks or even more behind the average. Many express the opinion that it will be necessary to put all the

corn in the silo or feed it green, as it will not ripen unless we have an exceptionally late fall. The following figures, derived by averaging the reports by counties and for the State, denote the percentage of the corn crop grown for ensilage; Berkshire, 48; Franklin, 43; Hampshire, 43; Hampden, 28; Worcester, 60; Middlesex, 65; Essex, 67; Norfolk, 74; Bristol, 36; Plymouth, 16; Barnstable, 0; the State, 44.6, or less than half the crop. In one or two instances correspondents reported "well-cultivated fields looking good," indicating the value of the dust mulch. If every farmer would attend strictly to the matter of keeping continuously an inch or two of loose soil on his fields complaints of damage from drought would be lessened considerably.

The Hay Crop.

Earlier predictions were for an excellent crop of hay. The dry weather of June, however, was very disastrous to the crop, so much so that when it came harvest time it was found that while the crop as a rule was secured in excellent condition the quantity again fell much below normal, although it was slightly larger than last year. The reports are very uniform, and while many report the crop normal compared with "former" years, it must be remembered that the crop has been short for a number of seasons. While the crop in this State will not have much influence in fixing the price for next winter, it will mean a big loss to our farmers if they have to buy hay again this year.

Forage Crops.

Corn and the millets seem to be the crops most used for forage, while Hungarian grass, oats and peas, barley and some others are used to quite an extent. In general, forage crops have felt the effects of the drought quite severely, and many reports indicate that they have failed to come up altogether when planted, or, having come up, are very uneven. The recent rains have been of great benefit to these crops, as to all others, and they are now growing very well.

Market-garden Crops.

Market-garden crops have proven very unsatisfactory. Coming up poorly, the drought soon struck them, and at time of making returns very few had been harvested. Prices seem to be somewhat above normal. Very few early potatoes had been harvested on July 24, and many reported the crop a failure, with prospects better for the late varieties "if the blight could be kept off." This can be effectively done by the application of Bordeaux mixture at the right time, and the right time is long before it is time for the blight to appear, as it will do but very little good to begin spraying after the blight is seen. Potatoes gain very much in growth during the last two or three weeks, and the control of the blight is a necessity.

Fruits.

In general the returns indicate a poor fruit year for nearly all varieties, as the prolonged drought has caused disastrous dropping. Apples bloomed well and promised a fair crop for an even year. but returns show that there will be slightly more than a half crop. Pears will be rather a light crop, with none in some localities. Peaches in general are a failure from winterkilling. Plums promise a fairly good crop, especially in the western part of the State. Quinces as a rule are poor. Grapes in almost every instance are reported as a 100 per cent prospect, or as a very good crop. Cranberries in general are reported at about 50 per cent, owing to late frosts and ravages of fireworms.

Pasturage.

Pasturage is almost universally reported as being very badly dried up and burned, and farmers are feeding hay and grain to keep up the milk flow. Where not too far gone, however, the heavy rains will revive it sufficiently to be of much assistance. The farmer who makes use of the silo and last spring filled it with oat and clover silage is the man who has been able to easily keep up his milk supply. Read Mr. Daniels' article on "Silos and silage" in this issue.

Small Grains.

Rye, oats and barley, both as grain and forage crops, have been seriously affected by the drought, and where not a total failure have yielded poorly. Rye, as a grain crop, where grown on low land is reported as good. In many cases farmers report that it was necessary to cut these crops for hay, especially on light land. Barley is not grown as much as either oats or rye.

Orchard Planting.

While most towns report some new apple orchards set, the acreage is not especially large. Seventy-five acres planted in Lakeville, Plymouth County, is the largest amount reported for any one town, while other towns vary from scattered settings up to 25 acres. The reports also indicate that old orchards are receiving better care, and the fact that the San José scale was barely mentioned as one of the leading insect pests substantiates this statement.

Silos and Silage.

The returns in regard to this subject disclose some very surprising facts. It appears that less than one-half of the dairy farmers of the State make use of the silo; that its use is much more general among more successful farmers; and that corn is at present practically the only crop used as ensilage. Attention is called to the fact that in some localities farmers are going out of the dairy business owing to high prices of grain and hay and cows, and owing to the fact that a living price cannot be secured for dairy products. Many farmers do not have silos, also, because they cannot under present conditions see their way clear to make the necessary outlay. As compared with ten years ago the number of silos does not, in general, show any marked change. This would indicate a decline in the interest taken in dairying, or a stagnation of thought and action along this line by dairy farmers, due to high cost of production and low returns for products.

While corn is practically the only crop used for ensilage, millet and a few similar crops are occasionally used to "fill out."

NOTES OF CORRESPONDENTS.

[Returned to us July 24.]

BERKSHIRE COUNTY.

New Marlborough (E. W. Rhoades). — Corn is very uneven and poor; perhaps one-fourth will be put in the silo. There is hardly a normal crop of hay in quantity, but the quality is good. Sweet corn and millet started late, but are now growing well. Garden crops have suffered from drought. Apples promise a 75 per cent crop; there will be but few peaches; grapes and plums now carry a full crop. Pasture is dry and brown. Rye is a good crop and oats promise well. Setting new apple orchards has been discontinued. About one farmer in four has a silo, but the number is on the increase. Only the large growing varieties of corn are used for ensilage.

Alford (L. T. Osborne). — Tent caterpillars are the worst in years. Corn is very backward; some will hardly ripen unless conditions are very favorable. About an average crop of hay of good quality. But little attention is given to forage crops. Prospect is a very poor crop of potatoes, as the drought has been very severe. Less apples than for some years. Pastures mostly dried up. Grain and forage crops are very poor. Comparatively few trees have been set here, but large numbers in surrounding towns. But few farmers have silos, objections being scarcity and high price of labor and low price for milk. Only corn is used. We have had the worst drought in years, oats, rye, potatoes and corn suffering heavily.

Tyringham (Edward H. Slater). — Indian corn is very backward, but has improved since the recent rains; about one-third of the crop is grown for ensilage. The hay crop will be about the same as last year and of good quality. Sowed corn and Japanese millet are grown as forage crops, but will be quite late. Potatoes are very backward, but seem to be doing well. None have been harvested as yet. There will be a light crop of apples, plums, and grapes. Pasturage has been badly injured by drought. Oats are looking fairly well. No apple orchards have been set in town during the past year. About one-third of the dairy farmers are using the silo. The number has greatly increased during the past five or six years. Corn is the only ensilage crop used here.

Becket (Wm. H. Snow). — Potato bugs are doing the most damage of any insect. Corn is very late and will be fit only for ensilage. About a three-quarters hay crop is the rule, but the quality is excellent. Oats and millet fail to come up, owing to the dry weather. All market-garden crops are very late, owing to frost and drought. Prospect is good for all fruits, except cranberries. Pasturage holds out remarkably well. Grain and forage crops which were sowed early look fine. Late sown crops did not come up very well. One new apple orchard of one hundred trees has been set. A small proportion of the farmers use the silo, but ten new ones are to be used this year. Unless we get a very late fall many of the crops will fail to mature.

Cheshire (L. J. Northup). — Potato beetles are proving very troublesome. Indian corn is very backward and about three-fourths of the crop is grown for the silo. The hay crop is 75 per cent of a normal; quality on upland good. Millet, peas and oats and fodder corn are grown as forage crops; condition very good. Market-garden crops look well. Potatoes not yet harvested, as dry weather has kept them back. Fruit of all kinds seems very scarce. Dry weather was too much for the pastures. The grain crop has not matured sufficiently to be estimated. No new apple orchards have been set. Very few farmers have silos and but little corn is raised except silo corn.

Richmond (Timothy D. Salmon). — Potato bugs seem to be the most troublesome pest. Indian corn is below the average: about 25 per cent is grown for ensilage. The hay crop is above the average and of good quality. Sowed corn and millet are raised as forage crops and are in fair condition. Market-garden crops in general show about an average yield with slightly higher prices. Fruit prospects: apples fair; pears fair; peaches none; plums good; quinces good; grapes good; cranberries none. Pastures are in good condition. Grain and forage crops are up to the average. Five acres of new orchard have been set. A number of farmers are making use of the silo. Ten years ago there was but one in town.

Windsor (Harry A. Ford). — Potato bugs are doing much damage. Corn is very late and small; three-quarters of the crop is for the silo. The hay crop is about 90 per cent of usual crop and quality good. Oats, corn and barley, grown as forage crops, are very late. The prospect for apples not up to normal. Very little other fruit. Pastures are very dry. It has been very dry for all crops. About one-half the farmers use the silo, making use of corn exclusively.

Lanesborough (W. E. Foster). — The potato beetle is much in evidence. Corn is late and about one-half grown for the silo. The hay crop is about normal. Millet and corn are very late. Market-

garden crops are about the same in yield and price as usual. There will be a short crop of most fruits. The weather has been rather dry for pastures. About one-fourth of the farmers in this vicinity make use of the silo and corn is the only crop used.

Savoy (Willis W. Burnett). — Potato bugs are doing the most damage and many fields have been sprayed several times. Corn is very backward; about one-half is used for ensilage. The hay crop is about as usual. Corn and oats and some millet are grown as forage crops. Market-garden crops doing fairly well, but very few harvested yet. Most fruits promise an average crop. Pastures are in fair condition. Grain and forage crops are rather backward. Very few farmers in this vicinity make use of the silo. On account of the cold, backward spring and the dry weather later all crops are somewhat backward. It is very cool now and frost was seen on the 20th in some places.

FRANKLIN COUNTY.

Rowe (Henry D. Wright). — Corn is two weeks later than last year and two-thirds of the crop is to go into the silo. The hay crop about equals that of last year and the quality is good. Millet is principally raised as a forage crop and its condition is good. Very few market-garden crops are grown and no potatoes are harvested yet. Apples promise a fine crop, but are dropping badly. Pasturage is getting very short. Rye and barley are not grown here, but oats promise a good crop. Six acres of new orchard have been established. One-fourth of the dairy farmers make use of the silo, which is nearly double the number ten years ago. Corn is the only crop used as ensilage.

Buckland (Eugene D. Griswold). — Potato bugs are causing most trouble at present. Corn is late, but looking very good considering the dry weather; about 70 per cent is used for ensilage. Hay crop is a little short, but the quality is good. Very little forage raised. There have been no potatoes harvested, yet the vines look good. Apples and pears promise a good crop; peaches, plums, quinces and grapes are only raised for home use. Pastures are very dry. Grain and forage crops are not raised in sufficient amounts to make account of. There have been ten or twelve acres of apple trees set in the last year. I should say that about 35 per cent of farmers in this vicinity make use of the silo and the number is constantly increasing. Corn is the only crop used in this connection.

Conway (L. T. Hopkins). — The potato bug, although not appearing until late, are now doing much damage. Indian corn is backward, but has grown fast since the hot weather came; on dry land it is very small; about one-third of the crop is used for en-

silage. The hay crop is below the average and the quality is good when it is cut in its prime. Oats and millet are in poor condition, owing to the drought; some pieces not having been sown on this account. Potatoes look good considering the weather. Apple promise is not very good; pears are fair; quinces fair, and grapes about as usual. Pasturage is short, owing to the dry weather. Forty per cent of the farmers use the silo, which is considerably more than ten years ago. We had a good rain the 21st, and it has been cold with high winds since then.

Gill (Frank F. Stoughton). — The potato bug is most in evidence. Corn is late; very little grown for the silo. Hay crop is better than last year in quantity and quality. Corn, rye and millet are grown as forage crops. Apples promise a fair crop and grapes promise well. Pasturage is good since the rains. Grain and forage crops look well. Only a few farmers use the silo, less than ten years ago.

Northfield (T. R. Callender). — The elm-leaf beetle is doing a good deal of damage here. Corn is late, but of good color; fully one-third is grown for the silo. The hay crop is about an average and of good quality. Oats, peas and oats, and Hungarian are grown as forage crops and are in good condition. Potatoes look well. Fruit crop a little light. Pastures in fair condition for the season. Rye, oats and barley are fully up to the average. About five acres of new orchard have been set. Nearly all who have dairies of any size make use of the silo, using corn only. Ten years ago there were not more than six silos in town.

Montague (A. M. Lyman). — Potato bug, pea louse, elm-leaf beetle and rose bugs are doing considerable damage. Condition of Indian corn is about 80 per cent of normal and the crop is very uneven; 50 per cent is grown for the silo. Hay crop is about 75 per cent in quantity and 100 per cent in quality. Millet is raised as a forage crop and vetch is being experimented with. Early market-garden crops turning out fairly well. Prospect for apples and pears about 50 per cent; peaches, plums and quinces minus; grapes 75 per cent and cranberries 50 per cent. Pastures are badly dried up. Rye, oats and barley looking fairly well, especially rye. About fourteen acres have recently been devoted to apple orchard. About all of the farmers in this vicinity make use of the silo, using corn only. Twenty-five per cent more now have silos than ten years ago.

Sunderland (Geo. P. Smith). — Indian corn is making rapid growth and about one-half of the crop is used for the silo. The hay crop is about 75 per cent, of number one quality. No forage crops grown here. Potatoes will be a light crop; other crops fine, with prices good. Fruit crop will be light. Pasturage in fine condition.

About two-thirds of the dairy farmers have silos. There seems to be less interest in dairying than formerly. Rain on the 21st has improved the prospect for all crops. Onions and tobacco are making good growth and promise well. Tobacco growers have begun to prime the crop, which is a little late.

New Salem (Daniel Ballard). — Potato bugs are very plenty. Indian corn is very backward; less than 10 per cent grown for ensilage. Quality of hay crop is excellent, but quantity is less than normal. Corn and millet very backward on account of drought. Not much done in the market-garden line. Apples promise well. About the average crop of rye, oats and barley. About five acres of new orchard have been set out. About one-tenth of the dairy farmers have silos, which is not much of an increase over ten years ago. A fine rain on the 21st did much good.

Cummington (W. A. Harlow). — Borers are doing the most damage at present. Corn is very late, but looks good; one-half is used for ensilage. Hay about an average crop. Millet, rye, oats and peas are raised as forage crops. Market-garden crops are late, but looking well; none harvested yet. Prospect is for a light fruit crop. Pastures are very dry. Oat crop is short. No new apple orchards have been established recently. About one-half of the dairy farmers use the silo, and this is considerably more than ten years ago. We have had no rain except two or three light showers since June 1.

Chesterfield (Horatio Bisbee). — Potato bugs are most in evidence. Corn is somewhat backward, but is looking well; about one-half will go into the silo. Fully an average crop of good quality hay is the rule. Millet, Hungarian and corn are raised as forage crops and are in good condition. Fruit prospect is not very good. Pastures are in poor condition. Rye, oats and barley show a fair crop as forage; they are not raised for grain. Perhaps one-fourth of the dairy farmers use the silo, which is no more than ten years ago. Corn is the only crop raised for ensilage.

Westhampton (Levi Burt). — More damage is being done by the potato beetle than any other insect. Corn is very backward, but is now growing fast; about two-fifths is used in the silo. There is an average crop of hay and the quality of the same is very good. Oats and millet are raised chiefly as forage crops. The dry weather has damaged all forage crops. Market-garden crops not raised here. Potatoes not large enough to dig at this date. Apples promise well: pears, peaches and plums very light; quinces about half crop. Pasturage is very short. Very little rye, oats or barley raised here. About half the dairy farmers in this vicinity made use of the silo ten years ago; the same is true to-day.

Easthampton (W. C. Clark). — Potato bugs and squash bugs are

doing the most damage. Indian corn is backward, but is improving since the rain. The dry weather greatly reduced the hay crop. Millet and barley mostly are raised as forage crops. It has been hard to get millet started, owing to the dry weather. The supply of market-garden crops is very limited; prices are very good. Early potatoes on dry land looking poorly. Apples have dropped very badly. Upland pastures are very much dried up. From 50 to 75 per cent of the farmers in this locality make use of the silo. All farm and garden crops, including tobacco, were much retarded in growth by the drought and some were beyond hope.

Amherst (E. F. Gaskill). — Onion thrips, potato and elm-leaf beetles are doing considerable damage. Corn is growing rapidly; it does not seem to have suffered from the drought except on light soils; about one-half is grown for the silo. The hay crop is above the average and of fine quality; not as large as expected, owing to the drought. Japanese millet, Hungarian grass and corn are grown as forage crops. Few market-garden crops grown hereabouts, but prices are good and yield is also good. Prospect for apples fair; pears good; peaches poor; plums, quinces and grapes good. Pasturage is in good condition, having been greatly helped by recent rains. An average crop of rye, oats and barley. One new orchard of about fifteen acres has been established. About 80 per cent of the dairy farmers have silos against 40 per cent ten years ago. Corn is practically the only crop grown for ensilage.

Pelham, (John W. Knight). — Potato bugs and squash bugs are in the front rank of the bug battalion. Corn is looking good, but is rather late. About an average crop of hay of very good quality. Hungarian, millet, and oats as forage crops are late, but looking well. Potatoes are two weeks late. The prospect for apples and pears is good. For plums and grapes fair. Pasturage is looking fairly well. Rye, oats and barley about normal. Some eight or ten acres of new orchard have been set. Ten years ago there were no silos in town; now there are a few and corn is the main crop used. The late rains have helped to start things along.

Prescott (W. F. Wendemuth). — More damage is being done by potato beetles than any other insect. Corn is looking well; prospect is good for the crop; very little is used for the silo. The hay crop is larger than last year, but not up to the average. Japanese millet did not start well, owing to the dry weather, but is now doing finely. Potatoes promise a fair crop, although none have been harvested yet. Apples promise a three-quarter crop; they are dropping badly. Pasturage shortened considerably by drought. Oats only are grown for forage; there will be an average crop. Very few new apple trees have been set, probably one hundred and fifty in the whole town. Less than 2 per cent of the farmers in this

vicinity use the silo, which is an even smaller number than ten years ago.

Greenwich (Walter H. Glazier). — Potato bugs have been very troublesome. Corn is looking well, but is backward on account of dry weather. A fair crop of fine quality hay has been harvested. Some millet and Hungarian are raised as forage crops. The dry weather has injured the potatoes. Other market-garden crops not much grown. Pastures have been much injured by the dry weather. Some rye is grown for grain and oats for forage; condition of both very good. There are only a few silos in town and not all are in use. We had a good rain the 21st, the first since May 30. Deer are doing much damage in gardens, doing most of this during the night.

HAMPDEN COUNTY.

Russell (E. D. Parks). — The potato beetle and tent caterpillar are doing more damage than any other insects. Corn is looking good, having improved much the past two weeks. About an average crop of good quality hay. Oats as a forage crop are not in very good condition on account of dry weather. The fruit prospect, as a whole, is not very bright. Pastures are very dry. There will be a short crop of rye, oats and barley on account of the dry season. About twenty acres of new orchard have been set. About one farmer in sixteen has a silo, which is no increase over ten years ago.

West Springfield (T. A. Rogers). — Potato bugs and squash bugs are much in evidence. The corn is two weeks late, but looking fairly well; about one-fourth of the crop is grown for ensilage. Hay crop about normal. Grown as forage crops, oats are poor and corn late. Market-garden crops about normal in yield and price; hardly any potatoes dug yet. The prospect for fruit is as follows: apples poor; pears poor; peaches none; plums poor; quinces scarce; grapes poor. Pasturage is very short. About one farmer in ten makes use of the silo.

Chicopee (E. L. Shaw). — Not as much insect damage as usual. On fertile fields there was a good crop of fine quality hay. As forage crops corn is most grown, and rye, oats, wheat and millet are also used, all being in good condition. Market-garden crops are all coming along in good shape now. Potatoes look good. Fruit prospect: apples fair; pears none; peaches none; plums scarce; grapes good. Pasturage improving since the rain. Rye and oats in fair condition. No new orchards have been set and the scale is doing much damage in old orchards. About one-half of the farmers in this locality have silos, which is about the same number as ten years ago.

Hampden (John N. Isham). — Potato beetles doing the most damage. Corn is late, but is growing so fast since the rain that it

is inclined to lodge. There is promise of a full crop. The predicted heavy crop of hay turned out to be only a good average one. Corn, oats and millet and Hungarian grass are the principal forage crops raised. Market-garden crops good, with the usual prices. Early potatoes only one-half crop, owing to the dry weather; late potatoes looking well. Prospect for fruits: apples good; pears light; plums light; grapes good; blueberries plentiful. Pasturage much improved since recent rain. Rye and oats compare well with former years. About five to ten acres of new orchard set this year. Only three or four silos built in the last ten years. No farmers use summer silo.

Monson (F. D. Rogers). — Potato bugs and various kinds of flies are proving most troublesome. Corn very late, but good color and growing fast; probably 25 per cent used for silo. Hay crop nearly normal; turning out better than was expected. Japanese millet and corn are in good condition as forage crops. Early potatoes are a light crop. Prospect for late ones is much better if blight can be avoided. Fruit prospects: apples fair; pears, peaches and plums very light; grapes good. Pastures are in poor condition. Rye yields a heavy crop. Oats were short and mostly made into hay. About ten acres of new orchard have been set. Ten per cent of the farmers in this vicinity use the silo.

Palmer (O. P. Allen). — Elm-leaf beetles are doing a good deal of damage and plant lice on shrubs and trees are also very injurious. Corn is very backward, and has been damaged somewhat by the severe drought in June. The hay crop is about normal. Corn is the main forage crop raised, and the dry weather has affected it considerably. Market-garden crops are late, but have been greatly improved by the recent rain. There is a fair promise for apples, but other fruits will be very scarce. Pastures are in poor condition. Rye, oats and barley are not up to normal. The number of silos is rather less than ten years ago. Rye and barley are used as ensilage to a limited extent.

Brimfield (T. N. Lawrence). — Potato bugs are very plenty. Corn is coming on fine since the rain; less than 25 per cent is put into the silo. Hay crop is smaller than last year. Millet grown as a forage crop is looking well. Potatoes are growing now; they seemed to stand still during the drought in June. The promise is for about a three-quarters crop of apples; no pears; a few peaches on high land; and one-third of a crop of plums. Pastures are in fair condition. Rye nearly a full crop. Oats and barley have not developed yet, owing to the dry weather. There have been probably twenty-five acres set to apples. About one-half of the farmers in this vicinity make use of the silo; the number is increasing slowly. Japanese millet is used in the silo to a very light degree.

WORCESTER COUNTY.

Ashburnham (E. D. Gibson). — Corn is very backward, but is now growing fast; about nine-tenths of the crop is put in the silo. An average crop of fine quality hay has been harvested. Oats, millet, corn and barley grown as forage crops. They have suffered from drought, but are doing well since the rain. Everything is so backward that very few market-garden crops are ready for market. The seed of very early crops rotted in the ground. The fruit prospect is as follows: apples fair; pears fair; peaches few; plums good; cranberries killed by frost. Rye, oats and barley are not up to the average. Very few farmers in this vicinity have silos.

Gardner (W. E. Knight). — No special damage has been done by insects, although potato bugs are most in evidence. Corn is in fair condition; about 90 per cent of the crop is used for ensilage. There has been an 80 per cent hay crop of excellent quality. Millet, Hungarian and barley are raised as forage crops. Potatoes look well. Apples promise more than an average crop. Pastures are in poor condition. Rye, oats and barley also in very poor condition. About 25 per cent of the farmers in this locality have silos.

Petersham (B. W. Spooner). — Potato bugs are much in evidence. The corn crop is very backward and uneven; about one-half of it is put in the silo. The quality of the hay crop is above normal, but the quantity is below. The dry weather has affected all garden crops and no potatoes have been dug yet. Prospect poor for all fruits but apples. Pastures badly dried up. About one-half of the farmers in this locality use the silo; ten years ago there were none in town. Corn is the principal crop used as ensilage.

Hubbardston (Chas. C. Colby). — The brown-tail and gypsy moths are beginning to be troublesome and tent caterpillars are doing the usual damage. Corn is looking well, but is very backward. The majority of the crop is used in the silo. About an average crop of fine quality hay has been harvested. Quite a large acreage of oats, millet, etc., has been planted, which is doing well. Very little market gardening done here. Potatoes not yet ready for market. The prospect for apples, our principal fruit crop, is for an average yield. Recent rains have greatly helped the pastures. Not many new apple trees are being set, but old orchards are receiving better care. Nearly all dairy farmers use the silo, with corn practically the only crop used for ensilage.

Harvard (John S. Preston). — The San José Scale has lately made its appearance in town. Corn is rather backward. A fair crop of good quality hay is reported. Oats and Hungarian and some millet and rye are raised as forage crops, and are looking very well. The dry weather during June retarded all early market-garden crops;

peas did not fill out well, string beans are fair, and what few potatoes have been dug are very small. Apples, pears, peaches, plums, quinces and grapes promise large crops. Pasturage is about in average condition. The drought has injured rye, oats and barley. About two thousand apple trees have recently been set in this town, and there have been quite a number of pear and peach trees used as fillers in the new orchards. Very few farmers use the silo, and the number is not increasing.

Sterling Junction (Henry S. Sawyer). — Potato bugs are much in evidence. Corn is backward; about one-third is being grown for ensilage. An abundant hay crop of good quality is the rule. Oats and millet as forage crops are in good condition at the present time. Market-garden crops are backward; none being harvested as yet. Prospect for apples, plums and grapes is good; for pears and peaches light. The drought has dried up the pastures very much. Rye, oats and barley as forage crops are about normal. About five acres of new orchard have been set. About one-tenth of the dairy farmers in this locality use the silo; this being about the same proportion as ten years ago.

New Braintree (Chas. D. Sage). — Potato bugs and elm-leaf beetle are doing the most damage. Corn is very backward; probably 25 per cent of the crop is used for ensilage. The hay crop is better than last year, but not up to the average. Some millet and oats and peas are grown as forage crops, but all are very backward. Potatoes have been injured by the drought. Fruit prospects: apples 60 per cent; pears 40 per cent; peaches none; plums 75 per cent; grapes 50 per cent. The pear blight is damaging some orchards for the first time in many years. Pastures were badly injured by drought and cows are giving very little milk. All spring grains suffered from drought, but rye was a fair crop. Ten acres new orchard have been set this year. Ten per cent of the dairy farmers use the silo, which is twice as many as ten years ago.

Northborough (John K. Mills). — Many apple trees are being damaged by plant lice and lice are also doing damage to peas. Corn is looking well: over half the crop will be put in the silo. There has been a good hay crop in quantity and quality. Corn and millet are raised as forage crops and since the rain are growing rapidly. Early market-garden crops were light and prices higher than last year. It is yet too early to predict what the potato crop will do. There will be a very light crop of peaches, pears, plums, quinces; about half a crop of apples, and a good crop of grapes. Pastures are very poor, and will be of little help in the production of milk the rest of the year. Rye and oats have not done well. Some ten acres of new orchard has been set and a large number of trees have replaced old ones, which have died. Three-fourths of the dairy farmers have silos; ten years ago not over one-third.

Worcester (H. R. KINNEY). — Potato and squash bugs are doing much damage. Corn is looking well, but late. Probably more than one-half is put into the silo. A fair crop of good quality hay is reported. Oats, millet and corn are the principal forage crops raised. Market-garden crops are late and uneven; those harvested have been light, with prices good. Apples and grapes promise well; other fruits will probably be light. Pastures in better condition since the rain. The season has been very unsatisfactory, as heavy land could not be worked until late and then followed the severe drought, so that crops are not up to the average.

West Brookfield (MYRON A. RICHARDSON). — The elm-leaf beetle is doing a good deal of damage in this town. Indian corn is looking good, but is two weeks late; about one-half is grown for the silo. The hay crop will be about as last year or one-fifth short of normal. Millet and Hungarian are backward on account of the dry weather. The early apple crop will be normal, but the late crop will be short. The peach crop will be light on account of winter-killing. Pastures are nearly dried up, and cows are being fed in the barn. Oats are late and backward; rye up to normal. About one-third of the dairy farmers have silos, there being no noticeable change over ten years ago.

Brookfield (FRANK E. PROUTY). — Potato bug and elm-leaf beetle are the most troublesome in this town. Corn is backward on account of the dry weather; not over one-fourth will be put in the silo. The hay crop is about an average one. Corn, millet and barley are grown as forage crops and are all somewhat backward. The yield of market-garden crops is light and prices about average. No potatoes harvested yet. Apples promise about one-half crop and pears a light crop; peaches not over one-fourth; grapes look well; only a few cranberries raised here. Pastures have been damaged by the dry weather. Rye a good crop; oats not over one-half. There have been about one thousand apple trees set this year. Not over one-third of the dairy farmers have silos; the number being about the same as ten years ago.

Auburn (WILLIAM GILBERT). — Squash bugs seem to be doing the most damage. Corn is looking well where it has had good cultivation. About 90 per cent is silage corn. Hay is of good quality, but a lighter crop than last year. Millet and Hungarian are raised for forage and are about normal. Potatoes are looking well. Apples and plums promise small crops. Pastures are all dried up. All the dairy farmers use silos and have done so for fifteen or twenty years. Corn is practically the only crop used for silage.

South Milford (JOHN J. O'SULLIVAN). — Potato bugs are proving the most troublesome. Indian corn is in very good condition and 15 to 20 per cent of the crop is used for ensilage. The hay crop is a trifle better than for the past few years. Rye, oats, millet and

barley are in fair condition. Market-garden crops are backward, owing to the dry weather, and yield and price are about the same as usual. Apples promise a fair crop; grapes good and cranberries fair. The drought has dried up the pastures very much. Some four or five acres of new orchard have been set. About 10 per cent of the dairy farmers have silos; the number changing very little since ten years ago.

MIDDLESEX COUNTY.

Townsend (Geo. A. Wilder). — The elm-leaf beetle has done much damage this year. Corn is in good condition; 75 per cent of the crop will be put into the silo. The hay crop is light and of poor quality. Market-garden crops are looking good and there will be an average crop, with higher prices than usual. Prospect for apples is fair and for peaches it is good. Pastures are in poor condition. Rye, oats and barley are about the same as usual. About from 1,000 to 1,500 apple trees have been set in this vicinity. There are not as many silos in this town as there were ten years ago.

Dunstable (A. J. Gilson). — Corn is late, but growing fast. Only a small part is grown for ensilage. The hay crop is about normal and of good quality. Corn, millet and barley are raised as forage crops and are in good condition. Market-garden crops are not very heavy. No potatoes harvested as yet. The prospect is for a light crop of all kinds of fruit, except grapes, which will be plenty. Pastures have improved since the rain. All kinds of grains are about the same as in former years. One small apple orchard has been set. About one-third of the dairy farmers use silos. There has been very little increase in the last ten years.

Westford (J. W. Fletcher). — Plant lice on apple trees are the most troublesome insect pest. Indian corn is in good condition; about one-half of the crop is grown for ensilage. About an average hay crop. As forage crops oats and millet are in good condition. Early potatoes were damaged by the dry weather. Fall apples quite plenty; winter apples scarce. Oats a short crop. Fifty acres of new orchard have been set. Most of the dairy farmers use the silo.

Stoneham (J. E. Wiley). — Insects do not seem to be very troublesome. The hay crop is a fair average. As a forage crop corn is not up to the average. Market-garden crops are small and prices high. No potatoes have been dug. Apples and pears will be a light crop; grapes a heavy crop. Currants were a good crop. Pasturage is in good condition. The same number of silos are in use as ten years ago.

Lexington (Howard M. Munroe). — Apple and pear aphis and asparagus beetles are doing damage. Indian corn is looking well; about three-fourths of the total acreage is grown for ensilage. There is more hay than last year, but not an average crop, and of rather

poor quality. Millet and oats and peas are the principal forage crops and they have improved very much since the rain. Most market-garden crops are below the average. Very few, if any, potatoes have been harvested. Fruit prospects: apples 75 per cent; pears 50 per cent; peaches 40 per cent; plums 75 per cent; quinces 100 per cent; and grapes 100 per cent. Pasturage has improved very much since the rain. Rye, oats and barley have been good crops. Barley and oats rather light as forage crops. New apple orchards have been set, but not enough to replace the old ones that are fast getting unprofitable; perhaps 25 acres set in 1911 and 1912. About two-thirds of the dairy farmers use silos, which is perhaps an increase of 15 per cent in the past ten years.

Stow (Geo. W. Bradley). — Potato bugs and cabbage worms are doing the most damage in this vicinity. Corn is now growing well but is backward for the season; very little grown for the silo. About two-thirds of a crop of good quality hay. Hungarian and Japanese millet are grown as forage crops, but are not looking very well. Most all fruits have been dropping badly, as the result of the dry weather. Pastures are pretty well dried up. There is very little rye, and oats did not come up well. About five acres of new orchard have been set. There are not half the silos used that there were ten years ago.

Marlborough (E. D. Howe). — The San José Scale and plant lice are proving most troublesome. Corn is about 90 per cent of normal condition; 75 per cent of the crop will be put in the silo. The hay crop is about 95 per cent in quantity and 99 per cent in quality. Sweet corn is in good condition. Millet is just starting. But little is done here in market-gardening; crops are in fair condition, with good prices. The fruit prospect as follows: apples 60 per cent; pears 50 per cent; peaches 10 per cent; plums 50 per cent; quinces 25 per cent; and grapes 100 per cent. Pastures are all dried up and need rain badly. Rye 100 per cent and oats 90 per cent of normal, and barley not planted yet. About 500 new apple trees have been set, and about one-quarter of these are dead from drought. About 60 per cent of the dairy farmers have silos, which is very little change from ten years ago.

Newton (G. L. Marcy). — Mosquitoes, flies, gypsy and brown-tail moths are proving most troublesome in this locality. The condition of Indian corn is good; about two-thirds of the crop is grown for ensilage. The hay crop is good both in quantity and quality. The potato crop will be poor this year. Fruit prospects in general are fair. Pastures are in better condition since the rain. Rye, oats and barley compare well with former years. Dairy farmers are becoming more scarce. About half the farmers have silos, but more would have them if there were better prospects of securing a living price for dairy products, where labor and land are so expensive.

ESSEX COUNTY.

Merrimac (S. Bixby Sargent). — Elm-leaf beetles are proving injurious. Indian corn is growing fast since the rain; 90 per cent is grown for ensilage. Hay crop is the largest for several years and quality is good. Forage crops grown are fodder corn, German and Japanese millet. Prices of market-garden crops are good. Strawberries were ruined by the drought. Potatoes are in fair condition. Prospect is that grapes will be plentiful, peaches light, and apples an average. Pastures needed rain badly. Rye, oats and barley not raised for grain; not over half a crop as forage. Five acres of apple orchards were set in 1911; 22 acres were set in 1912. Most dairy farmers use silos, there being four times as many in use as ten years ago. Corn is the only crop used for silage.

Haverhill (Milton A. Corliss). — Gypsy moths have been doing some damage in the woods. Corn is a little late but looking well; about 50 per cent is grown for silage. Hay is of good quality and more than a normal crop. Oats, millet, Hungarian and barley are grown to some extent for forage and are in good condition. The condition of market-garden crops is normal. Early potatoes are in good condition. Prices of market-garden crops the same as last year. Apples are looking well; pears are fair; peaches, quinces and plums are a failure. Pasturage good on account of recent rains. Rye, oats and barley are not raised for grain. No large apple orchards have been set in 1911 and 1912, but nearly every farmer has set out trees. About 25 per cent of the farmers have silos: there were very few ten years ago. Nothing but corn is used for silage. Many farmers who have silos do not fill them.

Methuen (Frederick A. Russell). — Insects are proving less troublesome than usual. Indian corn is backward and small: a large proportion of it is used for ensilage. There is an average hay crop of good quality. Oats, barley and millet are grown for forage and are in very good condition. With the exception of peas, market-garden crops have been about an average in yield and price. Early apples promise well; winter apples fair; all other fruits very light. Pastures have improved very much in the past ten days. Rye, oats and barley, both as grain and forage crops, compare favorably with former years. No new apple orchards of recent planting. Perhaps 40 per cent of the dairy farmers use silos, about the same number as ten years ago. Nothing but corn used for ensilage. Corn suffered severely up to July 11. Farmers who took advantage of the hot dry weather never secured their hay crop in better condition or at less expense.

Topsfield (B. P. Pike). — No insects in particular. Indian corn is late but looking well; 70 per cent is grown for ensilage. The hay

crop is 75 per cent of a full crop; quality good. Corn, oats and millet are grown for forage; their condition is fairly good. No market-garden crops grown except sweet corn and potatoes. Apples show prospect of being a half crop; pears, few; peaches, fewer; cranberries, none but wild ones. Pasturage is improving; it has been very dry. Rye, oats and barley not grown for grain; as forage they are not up to the average. Very few new apple orchards have been set. Ten per cent of the dairy farmers use silos; the number is not much of an increase over ten years ago. Corn only crop used for ensilage.

Hamilton (Geo. R. Dodge). — No particular species of insect are especially troublesome. Indian corn is coming along rapidly so that its condition is nearly normal; about 80 per cent is put into the silo. The quality of the hay crop compares favorably with former years, with slightly increased production. Oats, barnyard millet and Indian corn are used for forage; their condition is normal. Market-garden crops have yielded less plentifully than in former years, but prices have ruled high. All tree fruits will be in shorter supply than was promised in the spring due to non-pollenation and heavy drop. Pasturage is short but is recovering since recent heavy rains. Winter rye is especially good as grain. Oats and barley as forage crops are about normal. One 3-acre apple orchard has been planted the past year. One-half the dairymen use the silo, which proportion has remained the same for the past ten years. Indian corn is almost universally grown for ensilage; soy beans have been tried in a small way.

Wenham (N. P. Perkins). — Cutworms have done damage to some extent but are not bad. Squash maggots and potato bugs are doing injury. Indian corn is looking well but is rather backward. More than two-thirds is used for the silo or green forage. The hay crop is not an average, and not as much as expected. Corn, Hungarian grass, oats, barley, millet are grown for forage and are in fair condition. Not many market-garden crops put on the market yet. A few orchards will have a fair crop of apples, but there will not be many of the other fruits mentioned. Pasturage has been improving since the rains of the 18th to 21st, but will soon have to be supplemented with green feed. No rye, oats or barley grown except for fodder. A few apple trees have been set here and there, and one orchard of ½ acre. Only 3 dairy farmers in town use silos but that is three more than ten years ago. Hungarian grass, oats, barley, millet and peas, besides corn, are used for ensilage more and more each year as pastures are growing poorer.

NORFOLK COUNTY.

Cohasset (Ellery C. Bates). — There is very little complaint of insect damage at the present. The hay crop is above normal. Oats are mostly raised as a forage crop and are in fair condition. Late potatoes and other late market-garden crops look very well; early crops nearly a failure on account of dry weather. The fruit prospect in general is fair. Pasturage at present is in poor condition. Rye, oats and barley are about normal. There are no silos in this locality.

Randolph (Rufus A. Thayer). — The potato beetle and gypsy moth are our greatest insect enemies at present. Corn is in excellent condition and nearly all will be put in the silo. The hay crop was a good average one. Corn, oats and millet are raised as forage crops and all are doing well. Market-garden crops are in good average condition, with prices fair. The prospect for the apple crop is rather poor; for pears fair; grapes good. Pasturage has been greatly helped by the late rains, which have also given rowen a good start. Oats and barley only used as forage and they are in good condition. Only a very few new apple trees have been set. About one-half of the dairy farmers use the silo and no new ones are going up.

Millis (E. F. Richardson). — The maple louse, potato beetle, elm-leaf beetle, gypsy and brown-tail moths are worrying the farmers the most. Indian corn is very backward and poor; about 90 per cent came up. The hay crop was very fair in quality and about 75 per cent in quantity. As forage crops oats and peas half a crop; millet, Hungarian and barley just put in lately. Market-garden crops are in a poor condition and high in price. Fruit prospects: apples 90 per cent; pears 70 per cent; peaches none; plums 40 per cent; quinces 60 per cent; grapes 75 per cent; and cranberries 50 per cent. Pastures are very dry. Rye compares favorably with former years and oats and barley about one-half normal. About five acres of new orchard have been set. Eighty-five per cent of the farmers in this locality make use of the silo. Rye is used to a slight extent for ensilage.

Franklin (C. M. Allen). — Tent caterpillars and potato bugs are most injurious. Corn has been injured by the dry weather; probably more than half the crop is for ensilage. A very good hay crop. All kinds of forage crops are raised, but it has been too dry for a good growth. The dry weather has injured market-garden crops, and prices are consequently high. The prospect for apples is light; peaches none; pears light; plums few; quinces good and grapes good. Pastures are very dry. About half of the dairy farmers have silos, which is about five to one compared with ten years ago. Early,

warm weather, then cold and wet, killed many injurious insects after hatching.

Foxborough (Wm. E. Perkins). — Corn is very backward and about two-thirds is used for ensilage. Hay is of good quality, but not quite up to last year's yield. It looks as if there would be a light fruit crop. Pastures are very dry. About one-half of the dairy farmers in this vicinity use the silo, double the number that had them ten years ago.

BRISTOL COUNTY.

Mansfield (E. Jasper Fisher). — Potato bugs, elm-leaf beetles and plant lice seem to be most injurious. Corn is uneven, but doing well and about one-third of the crop is grown for ensilage. The quality of the hay crop is good, and in quantity it is slightly more than last year. Millet and rye do not look well, owing to the drought. Market-garden crops are backward and no potatoes harvested. Prospects are for a fair crop of apples; not many pears and no peaches, and a fair crop of cranberries. Pastures are pretty well dried up. Rye is up to the average as a grain crop. Very few of the dairy farmers have silos; not as many as ten years ago.

Attleborough (Isaac Alger). — Indian corn is in good condition and about one-half will go into the silo. About an average crop of excellent quality hay. The millets are being grown as forage crops and are in good condition. Potatoes are now looking fairly well; none dug yet. There will be a small fruit yield excepting grapes. Pastures are very short. About an average crop of rye, oats and barley. About one-half of the dairy farmers have silos, which was true ten years ago.

Rehoboth (Adin B. Horton). — Potato bugs and plant lice are much in evidence. Corn is below normal; not more than one-tenth grown for ensilage. Hay crop about normal. Some millet is raised for forage, but is in poor condition. Market-garden crops are below the average, and prices about the same as former years. Apples and pears promise a 30 to 40 per cent crop, while peaches are practically a failure. Pastures are in very poor condition. Rye and barley are not raised much. Oats not more than two-thirds crop. Not more than one dairy farmer in twenty has a silo; this being about double the number there were ten years ago.

Swansea (F. G. Arnold). — Corn is suffering for want of rain. Early plantings have made good growth; much of the later plantings have not come up. About a normal quantity of fine quality hay. Millet and fodder corn are being grown as forage crops, but both are backward, owing to dry weather. Market-garden crops are in poor condition, owing to the dry weather; cabbage crop late, prices

low; potatoes very small and are drying up. Fruit prospects in general are very poor. Pastures are pretty well dried up. Rye, oats and barley are light on account of drought. Five silos will be filled this year; ten years ago three were filled. We have had no rain here since May 30, and many farmers are feeding hay as freely as in the winter.

Westport (Albert S. Sherman). — Very few insects at present, but the fall web worm is making its appearance. Corn is doing well, but very little is grown for ensilage. The hay crop is short, but the quality is very good. Corn is raised as a forage crop and is looking good. Potatoes have been injured by the drought and none have been harvested yet. Pears and grapes will be plenty; apples not so plenty as last year, as they are falling badly; peaches few. Pastures are very poor, with no feed except on low land. Rye and oats are in good condition. Only a few silos are used in this vicinity and the number is not on the increase. The recent rains have helped all crops immensely.

Acushnet (M. S. Douglass). — Cutworms are doing more damage than any other insect. Indian corn is very backward, as the weather has been too dry. One-third of the crop is used for silos. The quality of the hay crop is excellent, but the crop is not up to the average in quantity. Millet is grown as a forage crop, but is very backward. Potatoes will be a short crop on account of dry weather, with good prices. There will be a good crop of early apples; late apples not doing as well; pears a fair crop and peaches scarce. Pastures are very short. Rye a normal crop, with oats about two-thirds. Quite a number of young apple trees have been set. Nearly all dairy farmers have put in silos; ten years ago there was only one in town. It has been exceedingly dry, but the rain of the 21st has helped everything very much.

PLYMOUTH COUNTY.

Norwell (Henry A. Turner). — Potato bugs are proving most troublesome. Indian corn looks well; a very small proportion is used for ensilage. The quantity and quality of the hay crop are about normal as compared with former years. Market-garden crops have suffered from drought. No potatoes harvested yet. The prospect for fruits is about normal except for pears, peaches and cranberries. The dry weather has affected hilly tracts of pasture land. Rye, oats and barley not raised much. Very few new apple orchards have been set. There are very few silos in this vicinity. Corn is about the only crop used for ensilage.

West Bridgewater (Clinton P. Hayward). — Tent caterpillars in the orchards and brown-tail moths in the oak groves are doing most

damage. Indian corn is late; about ½ is raised for ensilage. The hay crop in this town is about ¾ of the normal. Hungarian grass and barley are raised for forage and are looking well. Early potatoes have ripened early. Very little fruit save grapes, which are abundant. Cranberries were cut by late frosts. Pasturage is very short, owing to dry weather. There is a good crop of rye, but dry weather hurt oats and barley. Most farm owners have been setting out a few apple trees — 3 acres in all. All keeping large herds use silos — perhaps ¼ of the dairy farmers. Many farmers raise sweet corn for the purpose of selling the ears and feeding the fodder to cows.

Bridgewater (R. Cass). — Cutworms and potato bugs are doing some damage. Indian corn is backward as an average; none grown for ensilage. Hay is below the normal in quantity; the quality is good. Japanese millet and Hungarian grass are grown for forage and are in fair condition. The condition of market-garden crops is below the average; the prices for those harvested are a good average. Potatoes are looking well. The prospect for fruits is below normal. Pastures where not cropped too close are in fair condition. Rye is a normal crop, oats light, barley not grown. One apple orchard containing 8 or 9 acres was set in 1911. No silos have been in use for several years.

Kingston (H. L. Baker). — Potato bugs and cutworms are proving most troublesome. Indian corn is doing well; not more than 10 per cent is grown for ensilage. There was a better crop of hay than last year; the quality was the same. There are not a great deal of forage crops grown. Market-garden crops are in good condition. Potatoes are doing well. Prices are about the same as in former years. There is an average yield of other fruit, but cranberries are going to be poor and a small crop. Pasturage is in good condition. Rye, oats and barley are about as in former years. There have been a few new orchards set out — probably 5 acres. About one-fifth of the farmers use the silo, and not more than ten years ago. Corn is the only crop used for ensilage.

Carver (J. A. Vaughan). — Gypsy moths, and fireworms on the cranberries are doing the most damage. Indian corn is in good condition; none is grown for ensilage. The hay crop is less than usual but was secured in excellent condition. Millet is raised for forage more than any other crop. The condition, yield and price of market-garden crops are up to the average. There is a small crop of fruit of all kinds. Pastures are dried up. Rye, oats and barley are average both as grain and forage crops. A few apple trees have been set out but no orchards. No silos. There was a large bloom on cranberries, but the fruit has not set well owing to extremely hot, dry weather. Fireworms are working on some bogs.

Lakeville (Nathaniel G. Staples). — Potato beetles and elm-leaf beetles are proving most injurious. Indian corn is rather backward for the season; about one-fifth is used for silage. About the usual quantity of hay harvested, but of better quality than in former years. Millet and oats are grown for forage, and are not looking extra well on account of drought. Market-garden crops are rather late, and late potatoes are looking well. Prices for market-garden crops are low. There will be a few apples, but other fruit will not be very plentiful. Pasturage was dried up but has started since the rains. Rye, oats and barley are about the average in condition, both as grain and forage crops. As many as 75 acres of apple orchards have been set out in this town in the last two years. About two-thirds of the dairy farmers use silos. Nothing used for ensilage except corn.

Rochester (Geo. H. Randall). — Potato bugs are proving most troublesome. Early-planted Indian corn looks well; late-planted is small and uneven; it did not come up well; one-fourth, perhaps, is grown for ensilage. The hay crop is about three-fourths of a normal, but average in quality. Corn, millet and some peas and oats are raised for forage, and are late and small generally. The condition of market-garden crops is improving. Potatoes are very small. Prices of market-garden crops compare favorably with former years. Apples are small and dropping fast. Other fruits are generally light. Pasturage is very short. Rye is a fair crop. But little barley is grown. No new apple orchards set. Very few silos used, and very little change in the number for ten years. No crops other than corn used for ensilage. The drought has been very severe, but things look brighter. There are very few dairy farms in this section. Deer are doing much damage, especially to beans.

BARNSTABLE COUNTY.

Falmouth (D. R. Wicks). — The potato beetle seems to be the most troublesome insect at present. Corn although late is now growing very fast. The hay crop is about normal as compared with former years. Corn, wheat and oats are grown as forage crops. Early potatoes have blighted, but the late ones are looking well, with prices higher. Apples promise a small crop, as do pears. Peaches and plums scarce, and grapes plenty. Pastures all burned up by drought. Rye, oats and barley up to normal. Only three silos in Falmouth, but there are very few dairy farmers in this locality.

Mashpee (W. F. Hammond). — The fireworm has done more damage than any other insect. Indian corn is above the average. The hay crop has been very good in quantity and quality. Rye, oats and fodder corn as forage crops are about average. The market-garden crops are below the average in condition, but above in price.

It looks now as if we would have an average crop of apples, pears, grapes and cranberries. Pasturage is good. Considering the season all grain is doing well. There are no silos in this locality.

Truro (JOHN B. DYER). — There are no unusual insects in this town. Indian corn is not much raised and none is grown for ensilage. The fresh hay crop was good, though affected slightly by dry weather. Some corn fodder is being raised as a forage crop. All crops have suffered on the uplands from drought. Market-garden crops on low lands are in good condition, and have also been good in yield and price. Fruit prospects: apples not very good; cranberries promise well; other fruits above average. Pastures are very dry. On July 21 we had the first good rain for seven weeks, which has improved the growth of all crops. Very little rye, oats and barley are raised here. Old orchards have been extended; some new ones started; acreage not large. None of the dairy farmers make use of the silo.

Wellfleet (E. JACOBS). — No insects are proving very troublesome here. Indian corn is very small. Fresh hay is about an average; salt or black grass is above the average. Some millet is raised as a forage crop and is an average. Market-garden crops are very poor on account of drought. Fruit prospect: apples a fair crop; peaches, pears, plums and quinces rather below the average. Pastures are in very poor condition. Very few new trees have been set in this town. The dairy farmers in this section do not make use of the silo.

West Falmouth (D. R. WICKS). — Potato beetles are proving most injurious. Corn is growing fast where the land is not too dry. The hay crop will be normal as compared with former years. Corn, wheat and oats are grown as forage crops. Early potatoes have blighted; the late ones are looking better, with prices higher. Fruit prospect: apples a small crop; pears normal; peaches and plums scarce; grapes plenty. Pasturage is in very poor condition, being all burnt up by the drought. Rye, oats and barley are a normal crop as compared with former years. Not quite an acre of new apple trees have been planted. Only three dairy farmers in Falmouth make use of the silo and in West Falmouth none.

DUKES COUNTY.

West Tisbury (GEO. HUNT LUCE). — Potato beetles are proving most troublesome here. Indian corn is doing well. The hay crop is better than last year, but not up to the average of former years; quality is excellent. Oats and fodder are raised as forage crops, and those planted early are in fair condition, while those planted late are poor. Market-garden crops were much injured by the

drought. Potatoes will be a very poor crop. The condition of fruits in general is poor. Pasturage is poor, being all burnt up by the dry weather. No new orchards have been set. Only a small proportion of the dairy farmers have silos; no increase in the last ten years. The weather has been so dry that the crops have had a poor chance of making good growth. Corn has stood it well, but hay, gardens, and potatoes have been injured very much, especially potatoes.

BULLETIN OF
MASSACHUSETTS BOARD OF AGRICULTURE.

SILOS AND SILAGE.

By H. O. Daniels, Millbrook Farm, Middletown, Conn.

At this writing we are passing through another long siege of drought, the fourth successive one of recent years, and those of us who are making dairying our life work have more cause than ever to be thankful for adopting the silo. We can no longer ask the question, is the silo a good thing, or, can I afford to build one? Rather, the problem resolves itself into the query, how can I feed a herd of dairy cows, make milk summer and winter, and produce the most silage for feeding them, for it has become almost absolutely necessary to have a supply of ensilage ready for feeding in the summer as well as in the winter.

We have studied this ensilage question here at Millbrook Farm for a number of years, being almost pioneers in the matter of feeding ensilage in Middlesex County [Connecticut], as I believe there were no other silos in use when we constructed our first one nearly twenty years ago, except one at the Connecticut Hospital for the Insane; therefore, possibly in the light of these many years of use, we are in a position to say a good word to our struggling dairymen on the value of the silo. First of all, let me say if you are keeping eight or ten cows and have not a silo do not hesitate longer to build. I think after one year's use it will be found to be the best investment of time and money that can be made. Then, after filling the silo the first year, which undoubtedly will be with corn, as corn is acknowledged by all as the king of forage crops, study a systematic plan for producing silage to feed all the year.

When we began to grow silage crops, corn was the only regularly known plant for this product, and we planted acre after acre of our tillable land to this crop, adding more silos, as the needs of our herd demanded, until we had every available acre of our farm that corn would grow upon successfully in this crop, and still we could

not supply enough food for the rapid increase of our herd. Then we were obliged to grow corn after corn continuously, until we were shown a better way by adopting a crop rotation. Our farm is small, relatively speaking, according to the number of cattle we are keeping, there being only 72 acres that are tillable, while out of these 72 acres only about half is adapted for corn growing, the balance being meadows which are kept in permanent grass.

We found that by growing fields of corn, oats and clover we could get results in crop production far in excess of a continuous cropping of corn alone, and we are able to prove that 36 acres, producing one year of corn, one of oats and clover, one of clover, and then back to corn again, will produce more tons of silage in these three or four years than we ever grew in the same length of time where corn was the continuous crop.

In this system it is possible to produce 8 to 10 tons of clover and oat silage as a first crop, with a chance for a good second crop of clover rowen or ensilage the same year, and in the year following 8 to 10 tons of clover silage per acre as a first crop, and also a good second crop for silage or rowen hay.

To bring this matter down to the latest experiences we find the best results are gained by planting corn on the clover sod in the spring following the second year's growth of clover, using 15 to 20 loads of stable manure per acre; then follow the next year with oats, 1½ to 2 bushels drilled per acre, with 8 quarts of clover seed, mixing 5 or 6 quarts of red clover and 2 or 3 quarts of alsike and 3 quarts of timothy, sowing these after the oats, and lightly harrowing in and rolling, sowing ½ ton of burnt lime or 1 ton of raw lime-stone per acre, and harrowing thoroughly into the soil before sowing the oats or clover seed.

The following fall or winter season, or early in the following spring, top-dress this clover with 10 loads of stable manure, and grow a maximum crop of clover silage. In harvesting these silage crops we cut the clover with a mower, load with a hay loader on our flat platform wagons and haul to the cutter, throwing off on to a table or platform on a level with the top of the cutter, and cut all into half-inch lengths and pack in the silo.

After this clover crop, which is part timothy, is stored away in the silo, for the first three or four weeks the silage will come out hot, and we spray water on the same while filling the silage trucks before feeding the cows; but after three or four weeks the silage becomes cured, and a sweeter, more palatable food can hardly be furnished, and nothing will be more relished by the dairy cow. Personally we feel that even if we could grow corn enough to supply our herd all the year we would prefer to fill and feed clover silage during the months of June, July and August. Other good summer

silage feeds are alfalfa, with a mixture of orchard grass, or timothy, or the crop of oats and clover grown together.

After the crop-rotation system is well established we find we have enough silage with the second year's growth of clover, and we put the oats and clover of the first year into the hay mow.

Dr. Jenkins of the Connecticut [New Haven] Experiment Station has analyzed this summer silage, and reports it about three times as rich in protein when made of oats and clover, and four or five times when made of clover alone, as the corn silage, and feeding results in producing milk prove these facts. Professor Esten of the Connecticut Agricultural College reports the composition of clover silage as almost identical to the composition of milk, or, in other words. a ration of clover silage is almost perfect for the production of milk.

With these facts in mind, and with an experience of some years' feeding of both corn and clover silage, need I say more to recommend the adoption of this filling of the silos with corn in the fall season for winter and spring feeding, and again in summer with clover for the necessary summer feeding?

A practical experience of clover silage feeding on our farm would place the value of clover silage at one and a half times the value of corn silage, and when these crops of 8 to 10 tons of clover and timothy and 20 to 25 tons of corn silage can be produced per acre, why hesitate longer about building that silo?

We have had our herd shrink 25 per cent in their milk flow when our silage has given out before we could fill again in the summer with clover, and we have not been able to produce results with green soiling crops to come anywhere near the results secured when matured and cured silage was fed, so that we are positive that silage is the best and most palatable food when rightly made and fed.

A word as to cost and size of silos. Our experience has been that the diameter of a silo should not be over one-half its height, for the best preservation of the silage, or, in other words, a silo 12 feet in diameter should be at least 25 feet high or deep, and one 14, 16, 18 or 20 feet should be 28, 32, 36 or 40 feet high, respectively.

If your herd is small, say 10 cows, a 12 by 25-foot silo would hold about 60 tons, and be ample, if well filled, for that sized herd; 20 cows would need a 16 by 32, holding about 120 tons, and so on, but do not build over 20 feet in diameter, as it makes too much long handling to throw out of silo. Better build two 14 or 16 feet diameter silos instead, and fill one twice in the year, as mentioned earlier in this article.

There are all kinds of silos constructed, but in these days of modern silo construction the circular or round silo is the best, and can be built of staves, stone, brick or concrete. I know of silos

constructed of 2 by 4 or 2 by 6 chestnut staves, made from the trees of the farm wood lot and put together as they come in the rough from the local sawmill, held together by hoops, that have given good service and economy; also the patent, ready-to-put-up stave silo; but for long service and economy, without any of the bother or worry of blowing down in a heavy wind when empty, we favor a round silo made of brick and lined with cement mortar.

Our silos are constructed of what is known as swelled brick, that is, the hard bricks with the bulge in them that can be found at every brickyard, and which cost usually less than half the price of No. 1 brick; and when these are put up with a strong cement mortar, laying five courses of brick in an 8-inch wall, as houses are built, and every sixth course laid as headers across the other courses, and pieces of bent pipe with a large flange on end placed around one-third of the circle of the silo, that is safe to fill for a long term of years. Our first brick silo, constructed this way, has been filled fifteen years, and gives promise of many more years of constant use.

The cost of a silo of this type will vary with the distance from a brickyard or the freight cost on the brick, but as we constructed ours where we hauled the brick seven miles, and contracted for the laying of the brick at $4 per thousand, furnishing the sand for the same ourselves, the structure cost us about $2 per ton capacity, this including the cost of hauling the brick, building the roof, etc. Solid concrete silos can be put up, I think, for about the same cost.

When one considers the amount of food stored up in a 100 to 250 ton silo, and compares its value with the *cost* of a like amount of food stored in the average hay mow, I think they must concede that the silo offers the most economical storage of crops, and certainly will pay for itself very quickly whenever it is adopted on the dairy farm. Build the silo, brother dairymen; use judgment in the construction and size of the same to fit the needs of your herd, and then grow the crops to put into the silo, and do away with the long, laborious, undesirable green-soiling system for summer feeding of your dairy.

SERIES OF 1912. VOL. 25. NO. 4.

LIBRARY of the Massachusetts
SEP 18 1912
Agricultural College

MASSACHUSETTS CROP REPORT

FOR THE

MONTH OF AUGUST, 1912.

DUCKS AND GEESE.

ISSUED MONTHLY, MAY TO OCTOBER, BY STATE BOARD OF AGRICULTURE, STATE HOUSE, BOSTON, MASS.

J. LEWIS ELLSWORTH, *Secretary.*

ENTERED JUNE 3, 1904, AT BOSTON, MASS., AS SECOND-CLASS MATTER, UNDER ACT OF CONGRESS OF JUNE 6, 1900.

BOSTON:
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
18 POST OFFICE SQUARE.
1912.

Approved by

The State Board of Publication.

Crop Report for the Month of August, 1912.

Office of State Board of Agriculture,
Boston, Mass., Sept. 3, 1912.

Returns contained in this issue, the August number of the Crop Report, indicate the great benefits of the frequent and abundant rains since July 21, to both farm crops, meadows and pastures, and to fruits of all kinds as well. Those interested in poultry will find in the article on Ducks and Geese, by John H. Robinson, some very valuable material on a little exploited topic by a well known and reliable authority. The exorbitant prices of beef and kindred meat foods at the present time have a tendency toward the elimination, so far as possible, from the diet of the average city dweller, of such foods. Right here is an opportunity to supply a home demand with a home product, and those who have the facilities for the production of domesticated wild fowl can meet the opportunity, not only to their own profit, but to the benefit of the residents of Massachusetts.

Progress of the Season.

The Crop Reporting Board of the Bureau of Statistics of the United States Department of Agriculture estimates, from the reports of the correspondents and agents of the bureau, as follows for the United States: —

Crop.	Condition August 1 (Per Cent).			Condition July 1, 1912 (Per Cent).	Acreage, 1912.	
	1912.	1911.	Ten-Year Average.		Per Cent of 1911.	Acres.
Corn,	80.0	69.6	82.8	81.5	102.2	108,110,000
Winter wheat,	–	–	–	73.3	88.3	25,744,000
Spring wheat,	90.4	59.8	80.3	89.3	94.2	19,201,000
All wheat,	–	–	–	80.1	90.7	44,945,000
Oats,	90.3	65.7	81.4	89.2	100.2	37,844,000
Barley,	89.1	66.2	83.1	88.3	99.3	7,574,000
Rye,	–	–	–	88.2	98.6	2,097,000
Buckwheat,	88.4	82.9	90.2	–	100.2	835,000
White potatoes,	87.8	62.3	84.8	88.9	101.9	3,689,000
Tobacco,	82.8	68.0	81.8	87.7	117.9	1,194,200
Flax,	87.5	71.0	82.4[1]	83.9	108.5	2,992,000
Rice,	86.3	88.3	87.9	86.3	102.0	710,100
Hay, all tame,	91.0	68.6	82.6[2]	85.2	102.0[3]	49,209,000[3]
Apples,	65.8	53.9	53.9	67.9	–	–

[1] Nine-year average. [2] Four-year average.
[3] Hay figures of the bureau have been revised to conform to the census classification and basis; changes are due mostly to the inclusion of grains cut green for hay, not included in the bureau's previous basis of estimations.

The yields indicated by the condition of crops on Aug. 1, 1912, and final yields in preceding years, for comparison, follow: —

Crop.	Yield per Acre. (Bushels).			Total Production in Millions of Bushels.			
	1912.[1]	Final, 1911.	Average, 1906–10.	1912.[1]	Final, 1911.	Final, 1910.	Census, 1909.
Corn,	26.0	23.9	27.1	2,811	2,531	2,886	2,552
Winter wheat,	15.1[2]	14.8	15.5	390[2]	430	434	418
Spring wheat,	15.1	9.4	13.4	290	191	201	265
All wheat,	15.1	12.5	14.6	680	621	635	683
Oats,	31.9	24.4	28.4	1,207	922	1,186	1,007
Barley,	26.7	21.0	24.8	202	160	174	173
Rye,	16.9[2]	15.6	16.3	35[2]	33	35	30
Buckwheat,	19.3	21.1	19.5	16	18	18	15
White potatoes,	100.7	80.9	96.8	371	293	349	389
Tobacco (pounds),	820.6	893.7	828.0	980	905	1,103	1,056
Flax,	9.4[3]	7.0	8.7	28	19	13	20
Rice,	31.9	32.9	32.4	23	23	25	-
Hay, all tame (tons),	1.49[4]	1.14	1.42	73	55	69	69

[1] Interpreted from condition reports.
[2] Preliminary estimate.
[3] Based on average for 1905–1909.
[4] Based on average for 1908–1910.

The quality of winter wheat is 90.7, against 92 last year and 91.1 the 5-year average (1907–1911).

The quality of rye is 94, against 91.5 last year and 92 the 10-year average.

The amount of oats remaining on farms August 1 is estimated at 3.8 per cent of last year's crop, or about 34,872,000 bushels, as compared with 67,793,000 bushels on Aug. 1, 1911, and 64,199,000 on Aug. 1, 1910.

The condition on Aug. 1, 1912 and 1911, and the average of August 1 conditions of other crops follow: —

Crop.	1912.	1911.	Average.	Crop.	1912.	1911.	Average.
Rice,	86.3	88.3	87.9[1]	Cantaloupes,	80.1	74.4	77.2[2]
Pastures,	86.6	59.6	86.7[1]	Sweet potatoes,	85.0	77.7	86.2[1]
Timothy,	89.7	65.4	86.0[1]	Tomatoes,	87.8	72.5	82.9[2]
Alfalfa,	92.5	84.1	88.1[2]	Cabbages,	86.1	67.0	83.0[2]
Kafir corn,	85.9	72.9	82.1[2]	Onions,	89.2	73.6	86.2[2]
Millet,	85.2	60.3	79.5[2]	Sorghum,	84.8	73.5	85.2[1]
Broom corn,	79.2	65.3	77.5[2]	Sugar cane,	82.7	88.2	88.7[1]
Hemp,	85.0	64.7	81.8[2]	Sugar beets,	88.3	89.5	89.8[2]
Hops,	92.3	87.4	87.9[1]	Blackberries,	71.5	67.8	79.0[2]
Peanuts,	84.6	80.9	85.1[2]	Raspberries,	77.4	71.5	77.4[2]
Apples,	65.8	53.9	53.9[1]	Oranges,	87.3	86.2	86.0[2]
Peaches,	65.7	42.7	53.1[1]	Lemons,	85.2	93.7	90.5[2]
Grapes,	90.3	83.6	85.1[1]	Beans (dry),	85.9	81.9	87.2[2]
Pears,	65.0	59.5	61.6[3]	Lima beans,	87.3	75.5	83.7[4]
Watermelons,	78.4	74.7	77.0[2]				

[1] Ten-year average.
[2] Six-year average.
[3] Four-year average.
[4] Five-year average.

General Review of Crop Conditions and Prices August 1.

[From the Crop Reporter of the United States Department of Agriculture for August.]

Crop conditions in general, August 1, average for the United States materially better (12.3 per cent) than on same date last year, and slightly better (0.3 per cent) than the average condition of recent years. The month of July was slightly more favorable for crops than the average July and much more favorable than July of last year.

The average in field crops is about 1.2 per cent smaller than last year.

The condition of various crops on August 1, compared with their *average* condition (not normal) on August 1 of recent years follows: —

Peaches, 123.7; apples, 122.1; spring wheat, 112.6; oats, 110.9; hay, 110.2; barley, 107.2; millet, 107.2; flax, 106.2; grapes, 106.1; tomatoes, 105.9; pears, 105.5; hops, 105; alfalfa, 104.9; timothy, 104.3; lima beans, 104.3; hemp, 103.9; cantaloupes, 103.8; cabbage, 103.7; kafir corn, 103.5; onions, 103.5; potatoes, 103.5; broom corn, 102.2; watermelons, 101.8; clover for hay, 101.7; oranges, 101.5; tobacco, 101.2; raspberries, 100.

Pasture, 99.9; sorghum, 99.5; peanuts, 99.4; sweet potatoes, 98.6; beans (dry), 98.5; sugar beets, 98.3; rice, 98.2; buckwheat, 98; corn, 96.6; cotton, 94.9; lemons, 94.1; sugar cane, 93.2; blackberries, 90.5.

The yield per acre of winter wheat is 97.4 per cent of a 10-year average and of rye 103.7 per cent.

The indications are for a total production of all cereals (125,150,000 tons) of about 13.8 per cent more than last year, 0.1 per cent more than in 1910, and 9.8 per cent more than in 1909. Potato prospects are for about 27 per cent more than last year, 6 per cent more than in 1910, but 5 per cent less than in 1909. Hay prospects are for about one-third more than last year and 6 per cent more than in 1910 and 1909.

The general or composite condition of all crops combined

on August 1, duly weighted, by States, on the basis of 100 representing average conditions (for most crops the ten-year average), is as follows: —

Maine, 104.1; New Hampshire, 109.3; Vermont, 105.9; Massachusetts, 100.3; Rhode Island, 91.3; Connecticut, 94.2; New York, 98.4; New Jersey, 98.4; Pennsylvania, 101.4; — above division, 100.4.

Delaware, 106.1; Maryland, 106.4; Virginia, 104.8; West Virginia, 113.4; North Carolina, 101.8; South Carolina, 95.2; Georgia, 86.8; Florida, 98.9; — above division, 97.2.

Ohio, 95.4; Indiana, 92.6; Illinois, 95.8; Michigan, 94.7; Wisconsin, 102.7; — above division, 96.

Minnesota, 107.8; Iowa, 110; Missouri, 101.8; North Dakota, 119.6; South Dakota, 105.3; Nebraska, 96.1; Kansas, 103.3; — above division, 106.2.

Kentucky, 98.8; Tennessee, 96; Alabama, 93.7; Mississippi, 90.2; Louisiana, 96.3; Texas, 105.6; Oklahoma, 96.4; Arkansas, 93.9; — above division, 97.4.

Montana, 104.5; Wyoming, 110.9; Colorado, 114.2; New Mexico, 106; Arizona, 108.2; Utah, 104.3; Nevada, 101.2; Idaho, 104.2; Washington, 105.9; Oregon, 110.6; California, 99.1; — above division, 105.1.

The average prices of the ten products — corn, wheat, oats, barley, rye, flaxseed, buckwheat, potatoes, hay, and cotton — which represent above three-fourths of the value of all crops, declined 7.6 per cent during July, whereas during July, 1911, they advanced 8.7 per cent; they averaged on August 1 about 0.1 per cent lower than on August 1 last year; on July 1 they averaged 17.5 per cent higher than on July 1 last year.

Temperature and Rainfall for the Whole Country.

[From the United States National Weekly Weather Bulletin.]

Week ending August 5. — The cool weather prevailing over the northern districts last week continued at the beginning of the week just past, while in the more southern portions moderately warm weather prevailed. Later in the week unusually high pressure for so early in August prevailed

from the upper Mississippi valley eastward, and temperatures unseasonably low prevailed in nearly all portions of the country east of the Rocky Mountains. During the latter part of the week temperatures as low as or lower than ever before recorded in the first decade of August occurred over the Mississippi and Ohio valleys, the Middle Atlantic States and the northern portions of the Gulf States. For the week as a whole the temperature over the greater part of the country was below the normal. Low barometric pressure and unsettled weather prevailed over the northeastern States at the beginning of the week and light showers occurred along the Atlantic coast from Virginia to New England. Unsettled weather with local showers gradually overspread portions of the east Gulf and Atlantic coast States, continuing in portions of the Gulf States during Friday and Saturday. At the same time rain set in over the Lake region, extending to the New England coast by Saturday morning. For the week as a whole precipitation occurred over a wide extent of the country. Throughout the great agricultural districts the amounts were nearly everywhere less than one inch except in the western portions of the Plains region, locally in the Gulf and Atlantic coast States, the Lake region and northern New England, where the week's fall was from one to two inches.

Week ending August 12. — High barometric pressure continued at the beginning of the week over the districts to the eastward of the Mississippi, and the cool weather that had persisted for nearly two weeks still prevailed in all eastern districts, especially along the immediate Atlantic coast. To the westward of the Mississippi there was a tendency toward warmer weather. For the week as a whole the average temperature was below the normal throughout all the interior portions of the country, although the departures from the normal were not so pronounced as during the previous week. At a few points in the lower Lake region, in New England, along the immediate Gulf coast, in the Southwest and along the Pacific coast, the average temperature for the week was normal or slightly above. The early part of the week was without rainfall, except for a few light local showers, but by

Wednesday low pressure had developed over the middle Plains region and showery weather prevailed over much of the surrounding territory. This rainy condition moved slowly eastward during the latter part of the week, bringing more or less rain to all portions of the country east of the Rocky Mountains. For the entire week the precipitation was generous in amount and well distributed geographically over nearly all districts from the middle Plains region eastward to the Atlantic. As a whole the weather was most favorable and vegetation made excellent progress, save for small areas in Virginia and New Jersey, where more rain is needed.

Week ending August 19. — At the beginning of the week conditions were favorable for southerly winds and warm weather over most of the country from the Rocky Mountains eastward. By Wednesday the high pressure in the far northwest at the beginning of the week had advanced eastward to the upper Mississippi valley, and cooler weather prevailed over the northern districts from the upper Lake region westward to the Rocky Mountains. The high-pressure area moved slowly eastward during the latter part of the week, bringing moderately cool weather from the Lake region eastward to New England. For the week, as a whole, it continued cool over all northern districts. During the early part of the week moderately low pressure prevailed over the northern districts to the eastward of the Rocky Mountains, and local showers occurred at intervals in the lower Missouri and middle and upper Mississippi valleys, Lake region, Ohio valley and Middle Atlantic States during that period. By Saturday morning low pressure was general over the northern States between the Great Lakes and the Rocky Mountains, and showers occurred over most of those districts, continuing during Sunday and extending by Monday morning to the Middle Atlantic States and southern New England. For the week, as a whole, the precepitation was generous in amount over a large area from Kansas and Missouri northward to the Canadian border and eastward to the Lake region and Ohio valley. Amounts between 1 and 2 inches occurred over much of Florida, at points in the Carolinas and over New Jersey, eastern New York, the interior of New England, western Colorado and the far northwest.

Week ending August 26. — The distribution of the atmospheric pressure at the beginning of the week was favorable for a continuation of warm weather over the districts to the eastward of the Rocky Mountains. By the end of the week high temperatures were general in all parts of the country save along the northern border from Montana eastward to New England. For the week, as a whole, the temperature average was above the normal in nearly all portions of the country. There was a slight deficiency along the extreme northern border from the upper Lakes to New England, and at a few points in the Mountain regions of the west and locally in California. Low barometric pressure prevailed in the upper Mississippi valley and Lake region at the beginning of the week, causing showers and local thunderstorms in those regions, and to the eastward over the Ohio valley and Middle Atlantic States. During the latter part of the week there was little rain in the great central valleys, and only local showers over the Gulf and Atlantic coast districts. For the country, as a whole, the amount of precipitation was among the smallest of the season since March 1, although it was fairly well distributed over the States to the eastward of the Mississippi River, and there was a fair amount over a large portion of the middle Plain States. For the season, March 1 to date, the precipitation still continues above or near the normal over the principal agricultural districts, the excess being well marked in the east Gulf States, in the Ohio valley and over much of the country to the westward of the Rocky Mountains, especially in California and portions of the Plateau region. There is now considerable deficiency in Texas and locally in the Great Plains region and in the far northwest.

Special Telegraphic Reports.

[Weather Bureau, Boston.]

Week ending August 5. — New England. Boston: Temperatures were moderate, averaging somewhat below normal. Frequent showers occurred, giving abundant moisture for all vegetation. Except for the low temperature, conditions were excellent.

Week ending August 12. — New England. Boston: The weather was fair, except for moderate showers the last of the week. Temperature was somewhat higher than during the preceding week, and was seasonable.

Week ending August 19. — New England. Boston: Moderate to copious rains fell during the week and the temperatures were moderate. High temperature and more sunshine are needed.

Week ending August 26. — New England. Boston: The temperature was seasonable and there was sufficient rainfall. Favorable conditions prevailed throughout the week.

Weather of August, 1912.

The month as a whole was drier than usual, with the monthly mean temperature very near normal. Notwithstanding that the precipitation in some sections was 50 per cent below the August average, it was so well distributed through the month in the form of light to moderate showers that there was little complaint of the dry weather. At Boston the total rainfall of the month was 1.94 inches, while the normal for the month is 4.03 inches. Severe local storms in some localities, that were attended by heavy downpours of rain, reported monthly precipitation considerable in excess of the average, but otherwise the month was considered dry. The month opened and closed with unseasonably cool weather, the daily temperatures during the time ranging from 3° to 8° below the average; but warm spells that prevailed from the 8th to the 15th, and from the 22d to the 25th, with daily temperature from 4° to 10° above the normal, counterbalanced the cool weather during the rest of the month, and gave a mean for the month that was practically normal. While there were a number of oppressive days during the month, weather conditions popularly known as "dog days" were much less marked than usual in August. The sunshine was about the average, and, generally speaking, the weather of the month was unusually pleasant for the season.

Publications.

Copies of the July Crop Report are still available. This number contained a list of the agricultural fairs in the State this year, which come under the jurisdiction of this Board, with their dates. The special bulletin in the July issue is an article on "Silos and silage," by Mr. H. O. Daniels of Middletown, Conn., and calls especial attention to the value of summer silage as the best supplementary feed when pastures get short in the summer months.

Summary of Crop Conditions.

In the circular to correspondents, returnable August 24, the following questions were asked: —

1. What is the condition of Indian corn?
2. What is the prospect for rowen, as compared with a normal crop?
3. What is the prospect for late potatoes, and have you noticed blight or rot?
4. How do the acreage and condition of tobacco compare with former years?
5. What is the prospect for apples, pears, peaches, grapes, quinces and cranberries?
6. What is the condition of pasturage in your vicinity?
7. How have oats and barley compared with former years?
8. What is the condition of celery and other late market-garden crops?
9. Has the interest in the production for market of ducks and geese increased in recent years?

Returns were received from 134 correspondents, and from them the following summary was compiled: —

Indian Corn.

This crop, owing to the unfavorable weather conditions, did not come up very well, and then was held in check by the long drought of June and July. Recent rains and warmer weather, however, have been very beneficial, with the result that, although uneven and from ten days to two

weeks late as a rule, the crop is now in a very promising condition, especially in the southeastern counties of the State. Another full month without killing frosts will insure a fair crop, considering the drawbacks. One of the biggest factors in the growing of this king of crops is good seed. It should rather be the aim of the farmer to secure good seed in the fall than in the spring to test out the bad ears. The selection of seed corn in the field, *before* damaging frosts occur, is a big factor in the securing of good seed. On a favorable year a sufficient amount should be saved for several years ahead, in order to be assured of reliable acclimated seed.

Rowen.

The rowen crop in general will be somewhat short. The drought of early summer seriously affected the mowings, and this, together with droughts of previous recent years, has had a disastrous effect on the turf. With a favorable fall and a prolonged growing season there may yet be nearly a normal crop, especially in eastern and southeastern Massachusetts. In the Connecticut valley the promise seems to be for only one-half a crop or less. Many reports from all sections indicate that even with the copious rains uplands will yield but a small crop of, if any, rowen, while only early-cut, low lands will yield a full crop, and this will be late.

Late Potatoes.

Early potatoes this year proved very near a failure, and in some cases were a total loss. Late potatoes, however, escaped the disastrous drought to a large degree, and although they were checked by it, so that the crop, as a rule, is somewhat late, they now show a good growth of vine and promise at least a fair to medium crop. Very little rot is reported, but blight seems to be doing considerable damage, and this, with an excess of moist, muggy weather, will result in later rot. As the tubers increase in size very rapidly during the last few weeks, it is very essential that the blight be controlled. This can be accomplished easily and absolutely by the timely and frequent application of Bordeaux mixture.

It has been proved that proper spraying for blight, above its total extra cost, will add $40 an acre to the value of the crop.

Tobacco.

The tobacco crop in the Connecticut valley is reported as fully up to the average in quality and quantity, while there is a slight increase in the acreage of the regular crop and also of the shade-grown. Tobacco has also been affected by the severe drought, but has pulled through in fairly good shape. Cutting was in progress at time of reports, and many are "priming" the crop, or picking the leaves as they ripen, beginning at the bottom.

Fruit Prospects.

The apple crop has been severely curtailed as a result of the severe drop, which was caused by the long drought of June and July. Prospects at the present time are for about 60 to 70 per cent of a normal crop. Pears will be a rather light crop. Peaches were badly winterkilled, and in many localities there will be none whatever, while a light crop is expected in other sections, the Cape Cod districts showing up best. Grapes, as a rule, will be a good crop. Quinces will be only a fair crop. Cranberries promise a rather small crop, owing to late frosts and worm damage. A rough estimate for the State, as a whole, gives the crop, as compared with normal, about as follows: apples, 61 per cent; pears, 51 per cent; peaches, 35 per cent; grapes, 85 per cent; quinces, 65 per cent; cranberries, 65 per cent.

Pasturage.

Pastures, which, in the severe droughts of the last two years, have been badly burned, partially responded to the spring rains, ony to be unmercifully scorched again in the drought of June and July. The recent rains, however, have come to their relief, and they are now reported in some localities, especially in eastern Massachusetts, in better condition than for some years past at this time. While feed is still short, the recent rains have helped wonderfully in all sections.

Oats and Barley.

Oats are more generally grown than barley, and in many sections both are grown for fodder only, and not for grain. While the oat crop was somewhat damaged by drought, it came through in fairly good shape, although a little late. The barley crop seems to have been damaged to a greater extent by the drought, and is now a little late and somewhat below normal in condition, although the recent rains have been beneficial.

Late Market-Garden Crops.

Late market-garden crops are in much better condition than were the early ones. While the drought here again showed its ill effects, the recent abundant rains have somewhat atoned for the damage done, and these crops are now growing fast, and, barring destructive frosts, will yield, in general, goodly amounts of very satisfactory products. The market-garden sections are generally centralized in close proximity to their markets, and consequently many correspondents report "None grown except for home use." Several reports of frosts have been received during the month, and while these have probably done no appreciable damage, and have occurred only in exposed sections, it is worthy of note that not a month has passed so far in 1912 which has not been accompanied with more or less general frosts.

Ducks and Geese.

Reports would indicate that there is no marked change in the amount of interest shown in the production for market of ducks and geese, poultrymen confining their efforts largely to the raising of fowls and chickens. Scattered reports, however, indicate increased local interest. The article in this issue upon the production of ducks and geese, by Mr. Robinson, will doubtless serve as an eye-opener to many as to the advantages and profits of this branch of poultry husbandry.

NOTES OF CORRESPONDENTS.

[Returned to us August 24.]

BERKSHIRE COUNTY.

New Marlborough (E. W. Rhoades). — Many fields of Indian corn now promise a normal yield. Much less rowen than normally will be harvested this year. Late potatoes look well, and should be a good crop. Fruit prospects: apples, 75 per cent; pears, only a few; peaches, very poor; grapes, 100 per cent. Pastures have improved lately since rains have softened the ground. An average oat crop, gathered in fine shape. Condition of late market-garden crops is excellent. Ducks and geese are kept only for home use.

Alford (L. T. Osborne). — Indian corn is very backward and the outlook for a good crop is unfavorable, but it is coming on just at present. Rowen will be a little below a normal crop. Late potatoes will be a short crop on account of dry weather. Fruit prospect: apples, 25 per cent below average; pears, the same or less. Pasturage is fast recovering from dry weather. Oats and barley are rather below the average. Interest in the production for market of ducks and geese has not increased in recent years, but interest in other fowls has increased.

Stockbridge (F. A. Palmer). — Indian corn is in fair condition, but late. Rowen will be below normal. Prospect for late potatoes is fair, but there is some blight. Fruit prospect: apples, 60 per cent; pears, 20 per cent. Dry weather has injured pastures. Early-sown oats and barley are good crops, but a large part of late-sown is below par. Condition of celery and other late market-garden crops is very good. Interest in ducks and geese for market has not increased in recent years. The late rains fail to bring pastures and old meadows back into normal condition.

Washington (E. H. Eames). — Indian corn will be a one-half crop. Prospect for rowen is very good. Prospect for late potatoes is not very good; blight is plenty; not any rot yet. Fruit prospect: apples, one-half crop; pears, very good; peaches, none; grapes, none. Pasturage is in good condition. Oats are a good crop. No ducks and geese raised for market.

Richmond (T. B. Salmon). — Indian corn is very backward;

hardly any kernels set on ears yet. Rowen will be a normal crop. Fruit prospect: apples, below average; pears, a good crop; peaches, none; grapes, very few; quinces, average; cranberries, none. Pasturage is in very good condition. Oats and barley are short-strawed; some good pieces and some very light ones. Celery and other late market-garden crops are in good condition. Interest in ducks and geese has increased in recent years.

Peru (F. G. Creamer). — Indian corn is late. Rowen will be a one-half crop. Prospect for late potatoes is good; no blight as yet. Apple prospect, 75 per cent. The late rains have helped pastures. Oats look well and will show a good yield. Interest in ducks and geese has not increased in recent years.

Lanesborough (W. E. Foster). — Indian corn is very late. Prospect for rowen is good. Late potatoes will be a short crop; some blight. Fruit prospect: apples, short; pears, short. Pastures are in rather poor condition. Oats and barley are rather better than in former years. Interest in ducks and geese has not increased appreciably in recent years.

Cheshire (L. J. Northup). — Indian corn is very backward. Rowen will be short, with a normal crop. Late potatoes bid fair for a good crop; some blight, but no rot as yet. Fruit prospect: apples, scarce; pears, not plenty; peaches, none; grapes, few; quinces, none; cranberries, none. Pastures are very short and have not recovered from the dry spell. Oats are about a normal crop. Celery is not up to the normal. Interest in ducks and geese has not increased, but interest in most other fowls, except turkeys, has increased.

Williamstown (S. A. Hicks). — Indian corn is not a full stand and is two weeks late. Rowen will be a normal crop. Prospect for late potatoes is good; some blight. Fruit prospect: apples, 70 per cent; pears, 50 per cent; peaches, none; quinces, none; cranberries, none; grapes, 80 per cent. Condition of pasturage is 80 per cent. Oats and barley are just being thrashed; the straw is short. Late market-garden crops are in normal condition. Interest in ducks and geese has not increased in recent years.

FRANKLIN COUNTY.

Rowe (Henry D. Wright). — Indian corn is backward. Prospect for rowen is very poor. Late potato prospect is for a light crop; no blight or rot. Fruit prospect: apples, good; pears, few. Pasturage is short. Oats and barley were fully average crops. Interest in ducks and geese has not increased. If frosts hold off until late, we shall get a fair crop of corn.

Leyden (Frank R. Foster). — Indian corn is late and rather poor, and there will not be many ears unless frost holds off a month

yet. Prospect for rowen O. K. Late potatoes offer a very poor prospect; lots of blight. Fruit prospect: apples, fair; pears, fair; peaches, none; grapes, good; quinces, fair; cranberries, none raised. Condition of pasturage is good. Oats and barley were average crops, as compared with former years. No celery or late market-garden crops raised to any extent. Interest in ducks and geese has not increased.

Buckland (Eugene D. Griswold). — Indian corn is in good condition, but a little late. There will be a very small crop of rowen. Late potatoes are looking well; a little blight is seen. Acreage of tobacco is the same as in former years; condition is better than usual. Fruit prospect: apples, good; pears, good; peaches, very few raised; cranberries, none raised. Pasturage is poor. But very little oats and barley sown; condition is good. No celery or other late market-garden crops raised. There is a very slight increase in the interest in the production for market of ducks and geese; but few are raised.

Conway (L. T. Hopkins). — Indian corn needs warm weather and a favorable fall to mature; a few pieces will not mature the grain. The rowen crop will be small and light. Potatoes will be a light yield; have seen no blight or rot. Acreage of tobacco is about as usual, but most pieces are uneven. Fruit prospect: apples, 75 per cent; pears, very few; peaches, none; grapes, 75 per cent; quinces, a few; cranberries, none. Not much feed in pastures. Not much oats and barley raised for grain; more barley than usual is being sown for fall feed. Interest in ducks and geese has decreased.

Gill (Frank F. Stoughton). — Indian corn is very late. Rowen prospect is good. Some blight on potatoes. Apple prospect, fair. Pasturage is in good condition. Interest in ducks and geese has not increased.

Montague (A. M. Lyman). — The recent rains and warm weather are booming the Indian corn crop. Rowen will be hardly a one-half crop. Late potato prospect is fair; vines are still green and in good shape. Tobacco acreage shows a 10 per cent increase, with the early-set in better condition than usual. Fruit prospect: apples, usual crop; pears, only a few; peaches, none; grapes, good; quinces, none; cranberries, few. Pasturage got short, but is improving now. The oats and barley were hardly up to normal. Late market-garden crops are in good condition. Interest in ducks and geese has lessened. There has been a miraculous change for the good in the appearance of crops within the past two weeks.

Sunderland (Geo. P. Smith). — Corn is a little late, but is now growing fast and gives promise of a normal crop. The prospect for rowen at the present time is poor, but it may come on later and yield a better crop than was anticipated. Late potatoes promise fairly well, with considerable blight. The acreage of tobacco has been slightly increased this year, and the crop is good in growth and

quality. Fruit prospect: apples, 40 per cent; pears, 65 per cent; peaches, none; grapes, fair. Pasturage is now in fair condition, having been greatly improved by the plentiful rains. Very little oats and barley are grown. Celery and other late market-garden crops are in good condition. Much tobacco has been sold in the field at good prices, ranging from 17 to 21 cents delivered in bundles. Onions promise a good crop in most fields, but some show the presence of thrips, and the crop on these will be small.

New Salem (Daniel Ballard). — Some fields of corn are in good condition, while others are very poor. Prospect for rowen is rather poor, indicating a need for more rain. Late potatoes, as a rule, are very promising, with no blight or rot in evidence. Fruit prospect: apples normal; pears, rather light; peaches, few; grapes, light. Pasturage is pretty short and needs more rain. Oats and barley are a good yield. There is very little celery or other market-garden crops raised in this locality. Interest in the market production of ducks and geese has increased to some extent.

HAMPSHIRE COUNTY.

Cummington (W. A. Harlow). — Indian corn is in fair condition. Rowen prospect is poor. The crop of late potatoes will be a good one, with no blight or rot as yet. Apples promise only a light crop. Pasturage at the present time is about normal. Oats and barley are not heading well. Interest in the production of ducks and geese shows no marked change.

Middlefield (J. T. Bryan). — Corn this year is very poor and late; not much will ripen unless we have an exceptionally late fall. Scarcely any rowen will be harvested, owing to the effects of the drought. Late potatoes promise well, with no blight. Fruit prospect: apples, a three-fourths crop; pears, a full crop; peaches, fair; grapes, fair; quinces, none; cranberries, excellent. Late rains have improved the pastures, and they are now in good condition. Oats and barley are a poor crop. Late market-garden crops promise well. There has been no marked change shown in the interest in the production of ducks and geese for market.

Chesterfield (Horatio Bisbee). — Corn is backward, but is now looking well. Prospect for rowen is poor, owing to the dry weather in July and early August. Prospect for late potatoes is not very good; blight seems to be quite general, although rot has not been seen yet. There will be a poor crop of apples. Pasturage is rather poor, but is improving of late. Oats and barley compare well with former years. Very little being done in the market production of ducks and geese. Too much rain in the spring made the corn planting late, and the dry weather following greatly retarded the growth.

There are but few apples in this locality, and many trees contain no fruit. There will be practically no rowen unless we have a warm, damp fall.

Hatfield (Thaddeus Graves). — Corn is in good condition. Rowen is just recovering from the effects of the drought. Potatoes are pretty well dried up, and the yield will be small. Tobacco is about normal, having recovered since the recent rain. Fruit prospect: apples, poor; pears, poor; grapes, a one-half crop. Pastures are very bare, but are recovering since the recent rain. Celery and other market-garden crops are very backward. We have had extremely dry weather most of the summer, but the heavy rains within the last few days have been of great benefit.

Easthampton (Wm. C. Clapp). — Indian corn is growing fast, and if frost holds off, will be a fair crop. Rowen on low lands is not a normal crop. Prospect for late potatoes is fair; some fields show evidence of blight. Full acreage of tobacco, which is of good quality and in good condition. There will be about a one-half crop of pears and a normal crop of grapes. Pasturage, while much improved since the rain, is still rather short. Oats are good, and barley comes along well. Celery and other late market-garden crops are late, but looking well. The interest in the production for market of ducks and geese has increased.

Southampton (C. B. Lyman). — The rain of the last three weeks is bringing the Indian corn along nicely, and it will be a good crop if the rain holds off. Not much prospect for rowen; it is just starting up, and will be late and small. Late potatoes will be a light crop; have not heard of any rot, but lots of blight is in evidence. Acreage of tobacco is about as usual, but the crop is late. Fruit prospect: apples, short crop; pears, scarce; peaches, none; grapes, plenty. Pasturage has been very dry, but is starting now; many are feeding their cows some at the barn. Oats are cut for fodder. Barley is not grown. No market-garden crops raised. Ducks and geese are not produced for market. The rains of the last three weeks have transformed everything most remarkably. Corn and tobacco will be good crops if frosts do not kill them. Pastures will hardly recover this fall. The fruit crop, on the whole, will be light.

Amherst (E. F. Gaskill). — Corn is about normal, except on the lighter soil; it has not advanced as rapidly as last year. Rowen is much below the average, except on the best grass soils; there will be about a one-half crop. The prospect for late potatoes is rather poor, as the crop has suffered from drought and poor weather; blight is just making its appearance. Tobacco is in excellent condition, the acreage being slightly increased, especially the shade-grown. Fruit prospect: apples, good; pears, fair; peaches, poor; grapes, good; quinces, fair. Pasturage has been greatly improved by the recent

rains. Very little celery grown here. The interest in the production of ducks and geese for market shows no marked change. The two leading crops, onions and tobacco, are above the average this year, and bid fair to surpass the crops of last year, both in yield and in price.

Greenwich (Walter H. Glazier). — Corn has eared very well, but is late. The rowen prospect is poor; do not know of any to cut. Late potatoes are looking well; very little blight as yet. There will be a fair crop of apples. Late rains have helped to remedy the ill effects of the drought in the pastures. The interest in ducks and geese shows no material change. There was a light frost on August 17. We have had frosts every month this year.

Belchertown (Almon L. Pratt). — Corn is from two to three weeks late, but is now growing fast. There will be about three-fourths of a normal crop of rowen. Blight is noticeable in some potato fields. The acreage and condition compare favorably with former years. Fruit prospect: apples, a one-half crop; pears, a one-quarter crop; peaches, few; grapes, a full crop; quinces, normal; cranberries, very few. Pastures are in fair condition. Oats and barley are three-quarter crops. Celery and other market-garden crops are in fair condition. The interest in the production for market of ducks and geese has increased. Recent rains have helped all vegetation.

HAMPDEN COUNTY.

East Longmeadow (John L. Davis). — The Indian corn crop is not quite in average condition, on account of injury from drought. Rowen will not be over a one-tenth crop. Late potatoes will not show a very good yield; blight has appeared on most pieces. One man has about three acres of tobacco, — the first raised in town for some time, and looking well. Fruit prospect: apples, plenty; pears, few; peaches, none; grapes, good; quinces, some; cranberries, none. There is no grass in the pastures. Oats have been the poorest in my memory, and there is no barley. Some farmers are beginning to grow celery. Interest in ducks has increased very much, but there are few geese. There is not over one-third the milk made in this town that was made ten years ago, when we got 2½ to 2¾ cents per quart. Farmers now get 4 to 4½ cents per quart, and do not think it pays.

Blandford (Enos W. Boise). — Indian corn is fully ten days late, but is a good stand, and with favorable season will be an average crop. Rowen will not be over a 50 per cent crop. Late potatoes will prove to be a good crop; no blight as yet. Fruit prospect: apples, three-fourths of normal yield; pears, light; no peaches; grapes, average; cranberries, average. Pasturage is short, but will improve with recent rains. Oats and barley were about three-fourths

crops. Late market-garden crops are in average condition. No attention of any account is paid to raising ducks and geese.

Russell (E. D. Parks). — Indian corn is looking very well, and is earing nicely. Rowen will be about a normal crop. Some blight but no rot reported on late potatoes. Fruit prospect: apples, below average; pears, good; peaches, but few; grapes, good; quinces, good; cranberries, none. Since the August rains pasturage has been very good. The oat and barley crops were rather below the average. But little market-garden truck is raised here. There is more interest in chickens and hens than in ducks and geese.

West Springfield (T. A. Rogers). — Indian corn is two weeks late, but is looking well. Rowen looks well, but is late on account of drought. Prospect for late potatoes is fair; blight is showing some; no rot as yet. Tobacco shows an increased acreage, with a full average crop in sight. Fruit prospect: apples, a one-fourth crop; pears, few; peaches, none; grapes, full; quinces, few; cranberries, none raised. Pasturage is very short, but is gaining now since the rains. Oats were a full average crop; barley is raised only for forage. Late market-garden crops are somewhat late, but growing well now. Interest in ducks and geese has increased some in recent years, but to no great extent.

Agawam (J. G. Burt). — Indian corn is rather backward. There will be very little rowen this year. Prospect for late potatoes is for a fair crop; no blight or rot as yet. Acreage of tobacco is more than in former years, and condition better. Fruit prospect: apples, light; pears, light; peaches, light; grapes, good; quinces, light; cranberries, none. Pasturage is short. Oats and barley were about the same as in former years. Condition of late market-garden crops is good. Interest in ducks and geese has increased.

Hampden (John N. Isham). — Prospect is for a good average rowen crop. Late potatoes are looking very well; early potatoes are only a one-half crop; only slight showing of blight on late potatoes. Fruit prospect: winter apples, good; pears, small yield; peaches, none; grapes, plenty; quinces, fair; cranberries, short. Pastures are short, but green. Oats and barley have been good average crops. Late market-garden crops are raised on common farms only for home use, and are doing well. There is not much increase of interest in ducks and geese. Fodder corn and all forage crops are growing finely and in abundance. Cows will have to be fed forage crops to keep up a good milk supply.

Palmer (O. P. Allen). — Indian corn is in fair condition and growing rapidly, owing to recent rains. The rowen crop will not be as good as usual. Prospect is for a good crop of late potatoes of good quality; very little blight noticed. Fruit prospect: apples, fair; pears, very few; peaches, none; grapes, few; quinces, few; cranberries, none. Pastures are recovering from July drought in a

fair way. The oats and barley crops were lighter than usual. There is very little celery raised; other late market-garden crops are in fair condition. Interest in ducks and geese has not increased.

WORCESTER COUNTY.

Royalston (C. A. Stimson). — Indian corn looks well. Prospect for rowen is under normal. Late potatoes will be a one-half crop; vines blighted. Fruit prospect: apples, 75 per cent; pears, 30 per cent; peaches, none; grapes, 95 per cent; quinces, 70 per cent; cranberries, none. Pasturage is short. Oats and barley are normal crops. No ducks or geese raised for market.

Ashburnham (E. D. Gibson). — Indian corn is growing very fast, and with favorable weather from now on will make a good crop. On moist land a good crop of rowen will be secured. Blight is showing on nearly all fields of late potatoes, and we do not look for a large crop. Fruit prospect: apples, three-fifths of normal; pears, fair; peaches, few; cranberries, none. Pastures have improved, but hardly recovered from early drought. Oats and barley are at least average crops. Late market-garden crops in good condition. Interest in ducks and geese has not increased.

Templeton (Lucien Gove). — Indian corn is nearly two weeks late. Rowen will be a light crop, lighter than last year. Late potatoes will be below an average crop; no blight or rot. Fruit prospect: apples, light; pears, light; peaches, none; quinces, none; cranberries, none; grapes, good. Pasturage is below normal condition. Oats and barley crops are below average. Late market-garden crops in only fair condition. Interest in ducks and geese has not increased. Light frost on August 4 and 16 injured crops in some localities. High wind on August 23 blew off much fruit.

Westminster (Frank O. Derby). — Indian corn is late, but in good condition. Prospect for rowen is poor. Late potato crop is looking well; no blight as yet. Fruit prospect: apples, fair; pears, short; grapes, fair. Pasturage is in poor condition, on account of dry weather early in the season. Oats and barley are about average crops. Late market-garden crops are in fair condition. Ducks or geese not raised to any extent.

Dana (Lyman Randall). — Corn is coming on rapidly, but is late. There will not be much rowen. Late potatoes are looking well, with the exception of a few fields that are blighted. Fruit prospect: apples, a one-half crop; pears, a one-half crop; grapes, a full crop; quinces, good; cranberries, a one-third crop. Pastures are short. Oats are not quite an average crop. Not much barley raised. Late garden crops are doing well. Interest in ducks has increased, but there are not many geese kept.

Harvard (John S. Preston). — Indian corn is rather backward,

but doing very well. There will not be more than a normal crop of rowen. Have not heard of any trouble with potatoes. Fruit prospect: apples, 100 per cent; pears, fair; peaches, small; grapes, fair; quinces, fair; cranberries, fair. Pasturage is in better condition than at time of last report. Neither oats nor barley is raised for grain. Very little market gardening in this vicinity. Interest in ducks and geese has not increased.

Princeton (A. L. Tyler). — Indian corn is backward, but doing nicely. Rowen crop will be small, if any. Prospect for late potatoes is good; have not noticed blight or rot. Fruit prospect: apples, a one-half crop; pears, very few; peaches, none; grapes, plenty; quinces, fair; cranberries, good. Pasturage is in fairly good condition. Oats and barley compared very poorly with former years. No market-garden crops raised. Interest in ducks and geese has not increased.

Oakham (Jesse Allen). — Indian corn looks well, but is late. Little, if any, rowen will be cut, because of the early drought. Late potatoes look well; no blight or rot. Fruit prospects: apples, small crop; pears, small; peaches, none; grapes, few; quinces, none; cranberries, none. Pastures are very short. Oats and barley about a one-half crop. Interest in ducks and geese has not increased.

Shrewsbury (Fred J. Reed). — Indian corn is very backward, and early frosts would hurt many fields. Rowen crop will be very light. Late potatoes are looking well, with no blights yet. Fruit prospect: apples, very light; pears, very few; peaches, very few; grapes, some; quinces, none; cranberries, none. Pastures are not in very good condition, but late rains have improved them somewhat. Oats and barley crops are about the same as in former years. Late market-garden crops are looking fair. No ducks or geese raised.

Worcester (H. R. Kinney). — Indian corn is late, but growing fast. Rowen looks as though it would be light. Potatoes are late, but the vines are big; some blight. Fruit prospect: apples, good; pears, light; peaches, light; grapes, good. Pasturage is fully up to the average. Celery is not as large or even as usual, but is growing well; other crops are growing nicely. Interest in production for market of ducks and geese has increased. There are many people who do not know how nice fresh ducks and geese are, but when they try one, they want more. These fowls grow easily. We want a market at a paying price. Fruit has been damaged by lice and thrips. — the worst in my memory. Vegetables, as a whole, are in good shape, with the exception of squash, and the Worcester pole beans have been nearly ruined by thrips.

Leicester (Henry H. Kingsbury). — Cold nights the first part of August checked the growth of Indian corn, which is now maturing slowly. Rowen is doing well, and apparently a normal crop will be harvested. Prospect for late potatoes is good; no rot or blight seen.

Fruit prospect: apples, 100 per cent; pears, 100 per cent; peaches, none; quinces, 100 per cent; grapes, 100 per cent; cranberries, none. The weather has been very favorable for pastures the past six weeks. The drought in June injured the crops of oats and barley. All late market-garden crops are in fine condition. Interest in ducks and geese has not generally increased; only one party engaged in the business recently.

Southborough (E. F. Collins). — Indian corn is late, but doing well. There will be an average crop of rowen. There is more clover than usual. Late potatoes are growing well and promise a full crop; no rot. Apple prospect, 60 per cent; peach prospect, none. Pasturage is in good condition, the best for several years. Oats and barley are an 80 per cent crop. More ducks and geese are being raised, but on a small scale.

North Brookfield (John H. Lane). — Indian corn is growing finely, but is very late. Rowen will be 60 per cent of a normal crop. Prospect is best for very late potatoes, as others planted before the drought were injured. Fruit prospect: apples, 20 per cent; pears, 5 per cent; grapes, 70 per cent; cranberries, none. Pasturage is very short. Oats are a good crop. No visible increase in recent years in the production for market of ducks and geese.

Auburn (Wm. Gilbert). — Indian corn is growing very fast, and promises to be a good crop. Rowen will be about 75 per cent of a normal crop. Late potatoes promise a full crop; no rot or blight. Fruit prospect: apples, fair; pears, a full crop. Pastures are in good condition. Oats have been a good crop.

South Milford (John J. O'Sullivan). — Indian corn is in good condition. Rowen will be a poorer crop than usual. Prospect for late potatoes is fair; blight and rot just commencing. Fruit prospect: apples, fair; grapes, good; cranberries, fair. Pasturage is in poor condition. Oats and barley are about as usual. Little market-garden crops grown. Interest in ducks and geese has not increased.

Mendon (J. J. Nutter). — Indian corn is late, but in very good condition. Prospect for rowen is very good. Potato crop will be light; blight is noticeable. Fruit prospect: apples, about a one-half crop; pears, very few; peaches, very light; grapes, plenty; cranberries, medium. Pasturage is in very good condition. Not much oats and barley grown. Increase in interest in ducks and geese is not noticeable.

MIDDLESEX COUNTY.

Townsend (Geo. A. Wilder). — The condition of Indian corn is very good. Rowen will be an average crop. Prospect for late potatoes is good; no blight or rot noticed. Fruit prospect: apples, 50 per cent, heavy locally; early apples, plenty; pears, average; peaches, 50 per cent; grapes, good; quinces, fair; cranberries, good. Condi-

tion of pasturage is good. Oats and barley are better than in former years, due to late rains. Late market-garden crops are in good condition. Interest in ducks and geese has not increased.

Dunstable (A. J. Gilson). — Indian corn is a little late, but in fine condition. Rowen will be a good, normal crop. Late potatoes promise a medium crop; little blight has been noticed. Fruit prospect: apples, light; pears, none; peaches, none; quinces, none; grapes, some; cranberries, medium. Feed in pastures is short. Oats raised for grain have done well; no barley raised for grain. Late market-garden crops are in good condition. Interest in ducks and geese has not increased.

Billerica (E. F. Dickinson). — Indian corn is in fairly good condition, but ten days late; not much grown in town. Sweet corn for market is grown quite largely. Rowen will be about a one-half crop in my own and neighbors' fields. Prospect for late potatoes medium; some blight. Fruit prospect: apples, a two-thirds yield; pears, very few; peaches, almost a failure; grapes, good; quinces, fair; cranberries, light. Condition of pasturage is excellent since the rains. Oats and barley are grown only for fodder. There is the usual crop of oats and barley; feed is showing up well. Fair promise for late market-garden crops. Interest in production of ducks and geese has not increased. This has been a season of extremes, but vegetation now looks vastly better than in June seemed possible.

Sudbury (Edgar W. Goodnow). — Indian corn is looking well, but is backward. The rowen crop will be about normal. Late potatoes are looking well, with no signs of rot or blight. Fruit prospect: apples, scarce; pears, 50 per cent; peaches, none; grapes, plentiful; quinces, scarce; cranberries, plentiful. The late rains have greatly improved the pastures. About the same amount of oats and barley raised as in former years. No celery raised here; other late market-garden crops are looking well. No ducks or geese raised in this town for market.

Lincoln (C. S. Wheeler). — What little Indian corn is raised is looking fairly well, say 80 per cent. Rowen will be a two-thirds crop. Potatoes will be a fair crop; some rot. Fruit prospect: Gravenstein apples, good; Baldwins, poor; pears, fair; peaches, poor; grapes, good. Pasturage has been much improved by rains. Oats and barley are about 66 per cent crops as compared with former years; lack of early rains curtailed crop on hilly land. Celery and other late market-garden crops are rather backward. Interest in ducks and geese has not increased.

Winchester (S. S. Symmes). — No Indian corn raised. Good crop of rowen in sight, — fully up to the normal. Crop of late potatoes will not be heavy; some rot. Fruit prospect: apples, pears and peaches will be the smallest crop in years, because of heavy drop in June, due to drought or failure to set; grapes are a good crop;

quinces, none. Pasturage is in fine condition. Recent showers have made everything green. No oats or barley raised. Celery is growing exceptionally well. Interest in production of ducks and geese has not increased. Milk and eggs are in great demand, but the local supply is very much less than in former years.

Stow (Geo. W. Bradley). — Indian corn needs warm weather to get it out of reach of frost. Rowen is coming along fine since the rain. Late potatoes are looking well; have heard one report of rot. Fruit prospect: apples, fair; pears, poor; peaches, none; grapes, good; quinces, fair; cranberries, fair. Pastures have improved very much in the last month. There are not more than one-half crops of oats and barley. Very few ducks or geese raised in town.

Marlborough (E. D. Howe). — Indian corn is very uneven. Prospect is for a 75 per cent crop of rowen. Late potato prospect is good; some blight, but not general. Fruit prospect: apples, 60 per cent; pears, 50 per cent; peaches, 10 per cent; grapes, 90 per cent; quinces, 75 per cent. Condition of pasturage is about 80 per cent. Oats and barley were a 75 per cent crop. Have not noticed much increase in the production for market of ducks and geese.

Newton (G. L. Marcy). — Indian corn is in good condition. Prospect for rowen is fair. Not many late potatoes raised. Fruit prospect: apples, good; pears, poor; grapes, good; cranberries, few grown. Pastures are in good condition. Oats and barley started early in spring showed good yields. Condition of celery and other late market-garden crops is good. Ducks and geese are kept by a few people.

Hopkinton (W. B. Thompson). — The condition of Indian corn is good. Rowen will be late, if any; fields were so burnt that it takes a long time for the rowen to start. Late potatoes look well; no blight or rust. Fruit prospect: apples, poor; pears, few; peaches, none; quinces, none; grapes, good; cranberries, good. Pastures are very poor. A one-half crop of oats; barley rather poor. Late cabbage is looking well. No ducks or geese raised.

ESSEX COUNTY.

Salisbury (Wesley Pettengill). — Corn has made a very rapid growth of late and is looking well. Rowen crop will be good; rather more than a normal crop. Potatoes are looking fairly well; very little blight; no rot. Fruit prospect: pears, light; peaches, light; grapes, good; cranberries, fair. Pastures have improved greatly since the rains, and are in good condition. Oats and barley are raised for fodder only, and the crop is about the same as in former years. Interest in ducks and geese has shown no increase; people here are more interested in hens and chickens. All crops have made

rapid growth since the rains, especially corn and rowen. The apple crop will not be quite as full as that of last year.

Haverhill (Milton A. Corliss). — Indian corn promises to be an excellent crop. Rowen will be little more than a normal crop. Late potatoes are looking well; no rot or blight as yet. Fruit prospect: apples, good; pears, fair; peaches, poor; grapes, good; quinces, fair; cranberries, good. Condition of pasturage is more than normal for this time of year. The oats and barley crops have been better than normal. Celery and other late market-garden crops are doing well. There has been an increase in the production of ducks and geese during the past year. Apples promise a better crop than last year, but seem to be better in some vicinities than in others. Cranberry meadows are not equipped so that they can be flooded to prevent injury from frost.

Methuen (Frederick A. Russell). — Indian corn is rather backward. Rowen is about an average crop. Late potatoes are looking well; no blight or rot seen. Fruit prospect: early apples, good; late apples, fair; pears, very few; peaches, scarce. Pasturage is in good condition for this time of year. Oats and barley compare favorably with former years. Celery is looking well, with a large acreage set; other late market-garden crops are in good condition. Very few ducks or geese raised.

Groveland (A. S. Longfellow). — Indian corn is backward, but growing fast. Rowen promises a good crop on early-cut fields. Late potatoes look well; no rot as yet. Fruit prospect: apples, a one-half crop; pears, very few; peaches, few. Pasturage is much improved by the rainy weather. Oats and barley were all cut for hay in this region, and as such were normal crops. Late market-garden crops are looking very well. Interest in the production for market of ducks and geese has not increased.

Hamilton (G. R. Dodge). — Indian corn is still a little backward, but earing up rapidly. Rowen will be a 75 per cent crop on low meadows, with none on upland. Late potatoes are still growing; blight has appeared in two or three places. Fruit prospect: apples, fair; pears, short; peaches, almost none; grapes, good; quinces and cranberries, not raised in this locality. Pasturage is very good, — better at this season than for the past two or three years. Oats and barley are not raised for grain. Celery is not grown commercially; beets, ruta bagas and cabbage are hardly up to normal in condition, but growing fine. Poultrymen seem to take no interest in raising ducks, geese or turkeys.

Danvers (Geo. D. Hooper). — No Indian corn grown in this section. Sweet corn shows a large acreage and a good yield. It looks now as though rowen would be about a normal crop. Late potato crop seems to be growing rank; no blight or rot as yet.

Fruit prospect: apples, light; pears, light; peaches, very few; grapes, fair; quinces, medium. Recent rains have started the feed in pastures, and the condition is above normal. Oats and barley are grown as soiling crops in this section. All late garden crops are growing rank, and promise well. Not many ducks or geese are grown in this section; most of the farmers raise chickens.

NORFOLK COUNTY.

Norwood (Frank A. Fales). — Indian corn is three weeks late, and many pieces are uneven, as dry weather prevented portions from sprouting. Rowen will be about 50 per cent of a normal crop. Prospect for late potatoes is fair; no blight or rot. Fruit prospect: apples, light crop; peaches, none; grapes, good; quinces, none; cranberries, very few on account of frost in spring. Pasturage is very fair. Oats and barley are very good crops. Celery and cabbage are late, but looking well. No ducks or geese raised in Norwood.

Millis (E. F. Richardson). — Indian corn is in excellent condition. Prospect for rowen is for less than a normal crop; it takes some time to get over a scorching. Late potatoes promise a good crop; no blight or rot. Fruit prospect: apples, very good; pears, fair; peaches, none; grapes, fair; quinces, poor; cranberries, poor. Pastures are in fair condition. Oats and barley for forage are one-half crops. Condition of celery and other late market-garden crops is excellent. No ducks or geese raised.

Canton (E. V. Kinsley). — Indian corn crop looks light. A full crop of rowen is assured. Late potatoes look very well; no blight yet. Fruit prospect: apples, about a one-half crop; pears, about a one-half crop; peaches, none; grapes, good; quinces, none; cranberries, a very small crop. Pasturage is in excellent condition. Oats and barley are about a three-fourths crop. Condition of celery and other late market-garden crops, A1. Interest in ducks and geese has not increased. Potatoes and all garden truck are making an extraordinary growth and promise a heavy yield.

Avon (S. Frank Oliver). — Very little corn raised for grain; most of the crop is for the silo. Rowen is looking well and promises a good crop. Potatoes are up to the standard, with no signs of blight or rot. Fruit prospect is about as follows: apples, fair; pears, good; peaches, none; grapes, extra good. Pasturage is good, and conditions are now favorable for a good supply. Oats and barley raised only for green fodder, but have furnished a good crop. Late garden crops are in excellent condition and promise a fine yield. Very few ducks and geese raised in this vicinity, but almost everybody has a few hens and chickens. At the present time everything looks good, and indicates extra good returns for the season's labor, although the early planted crops suffered some from the drought.

Milkmen are making good quantities of milk, and cattle are in good condition, and in most cases a good crop of hay has been secured.

Franklin (C. R. Allen). — Indian corn is looking well. The rowen prospect is better than usual. There will be about a normal crop of late potatoes; no blight or rot noticeable as yet. Fruit prospect: apples, good; pears, few; peaches, few; grapes, heavy; quinces, few; few cranberries raised here. Pasturage is now in good condition. The yield of oats and barley has been light as compared with former years, some having been blasted. Interest in the market production of ducks and geese has not increased. It is a good year for hay and forage crops.

Foxborough (William E. Perkins). — Corn is rather backward, but the rains and hot weather are improving it greatly. Not more than a half crop of rowen; even on low land it does not seem to be up to normal. Late potatoes are now growing fast, and very few have been dug as yet; many pieces are showing blight. Fruit prospect: apples, normal; pears, fair; peaches, very few; grapes, fair; cranberries, poor. Recent rains have helped pasturage greatly. Interest in ducks and geese has undergone no recent change. Better growing weather and more rain have improved the condition of most crops, but much damage was done by the drought before the rain relieved it. Some pieces of Hungarian sown a number of weeks ago have a crop already headed out, and another crop, sown at the same time, is only a few inches high. Have noticed several pieces of millet that stood the drought better than the Hungarian.

BRISTOL COUNTY.

Easton (William N. Howard). — Corn is in medium condition for this time of year, but many pieces are very uneven. Good prospects for rowen. Late potatoes looking well; have seen but little blight. Apples are looking well, but there will be rather a small crop. Pasturage is now in excellent condition. Oats were injured by early drought, and many farmers were obliged to cut them. Celery and other market-garden crops are in excellent condition. Interest in ducks and geese has not changed during the last few years.

Mansfield (E. Jasper Fisher). — Corn is now looking well, although rather uneven. There will be some rowen on low ground. Late potatoes look well, with some blight. Fruit prospect is as follows: apples, good; pears, poor; peaches, none; grapes, good; quinces, poor; cranberries, fair. Pasturage is in rather poor condition. Oats are not as good as in former years; no barley. Celery and late market-garden crops are in fairly good condition. Interest in the market production of ducks and geese has seen no marked change.

Norton (H. G. Danforth). — Corn is looking well. There will be a light crop of rowen. Fruit prospect: apples, poor; pears, poor; peaches, none; grapes, poor; the local outlook is for a good cranberry crop. Pasturage is in fair condition. No barley; very few oats. Interest in ducks and geese has decreased in recent years.

Dighton (Howard C. Briggs). — Indian corn is backward. There will be about a one-half crop of rowen. Late potatoes will be about a one-half crop; no rot yet. Fruit prospect: apples, one-half; pears, average; peaches, none; grapes, average; cranberries, one-half. Pasturage is in poor condition. Oats and barley about three-fourths crop. Celery and other late market-garden crops are in good condition. Interest in ducks and geese has shown no marked change.

Swansea (F. G. Arnold). — Corn is now recovering from the long drought; early planted is looking good. Prospect for rowen is very poor. Late potatoes, owing to drought, are very small; no blight or rot. Fruit prospect: apples, poor; pears, fair; peaches, small crop; grapes, good. While the recent rains have improved pasture, it is still very short. Oats are a fair crop; barley is not grown for grain in this vicinity. Celery is looking good now; turnips looking fair. Market growing of ducks and geese is not practiced here.

Acushnet (M. S. Douglas). — Corn bids fair to be nearly up to normal. Rowen will be nearly a normal crop. Late potatoes looking well, but some blight is noticed. Fruit prospect: fall apples, good; pears, a one-half crop; grapes, good; quinces, few; cranberries, fair. Pasturage is in good condition. Oats and barley not up to normal. Late market-garden crops in fair condition. A very small increase in the market production of ducks and geese is noticeable. The wet weather of August has been a great help to all late crops. Early potatoes, owing to the dry weather, were a failure, but the late crop is in fine condition.

PLYMOUTH COUNTY.

Norwell (Henry A. Turner). — Corn is looking well. The rowen crop will be larger than usual. Late potatoes promise a good crop, showing no blight as yet. Fruit prospect: apples, rather poor; pears, not many; peaches, a fair crop; grapes, good; quinces, fair; cranberries, good. Pasturage is in fair condition since the rains. Celery and market-garden crops are not much raised in this vicinity. Cannot see that there has been any marked change in the interest in the growing of ducks and geese for market.

Hanover (Harrison L. House). — Indian corn is in fair condition. A good crop of rowen is promised in most places. Prospect for late potatoes is good; no blight or rot noticed. Fruit prospect: apples, very few; pears, good; peaches, fair; grapes, good; quinces, none raised; cranberries, fair. Condition of pasturage is good. No oats or barley raised, or at least a very little of the former. No

celery raised, and few market-garden crops; the latter are in good condition. Interest in ducks and geese has not increased.

Campello (Davis Copeland). — Corn is looking fairly well. Rowen will be a good crop. Prospect for late potatoes is good; have not seen blight or rot. Fruit prospect: apples, not many; pears, poor; peaches, none; grapes, good; quinces, not many; cranberries, none raised. Pasturage is in better condition since the rains. Not much oats or barley raised. Celery that was started early in moist land is looking well. There has been a slight increase in the interest in the production of ducks and geese for market.

Halifax (Mrs. G. W. Hayward). — Corn is in extra good condition, but rather late. There will be a fair crop of rowen. Potatoes are a good crop; no rot; not much blight. Fruit prospect: apples, small yield; pears, scarce; peaches, none; grapes, good; quinces, not many; cranberries, fair, some bogs were killed by the frost in June. Pastures are in good condition. Condition of celery and late market-garden crops is good.

Kingston (Howard L. Baker). — Indian corn is in good condition, — better than last year, further advanced and a bigger yield. Rowen will be about a normal crop. A good crop of late potatoes is expected; have not seen any blight or rot, but worms are working some. Fruit prospect: apples, a fair crop; pears, about the same as usual; peaches, grapes and quinces, the same as usual; cranberries, a smaller crop than usual, frosts and wireworms doing the most damage. Pastures are in good condition. Not a great deal of oats or barley planted; the yield was about the same as in former years. Late market-garden crops and celery are in good condition. Interest in ducks and geese has not increased in this town.

Carver (J. A. Vaughan). — Condition of Indian corn is good. Rowen will be an average crop. Prospect for late potatoes is good; no rot and but little blight. Fruit prospect: apples, small; pears, average; peaches, small; grapes, average; cranberries, a little better than last year. Recent rains have improved the pasturage. Oats and barley were average crops. There are no ducks or geese raised here for market.

Lakeville (Nathaniel G. Staples). — Corn is in fair condition. Rowen will be about a normal crop. Prospect is for a fair crop of late potatoes; have not seen any blight or rot. Fruit prospect: apples, few; pears, few; peaches, few; grapes, good; quinces, few; cranberries, extra. Pasturage is in fair condition. Oats and barley were about normal crops. Condition of celery and other late market-garden crops is good. Interest in ducks and geese has increased; we have in this neighborhood a duck farm producing from 8,000 to 12,000 ducks per year.

Mattapoisett (E. C. Stetson). — Corn is in pretty good condition and growing fast. There will be a little rowen on new meadows

where there is clover. Prospect for late potatoes is good; have not noticed blight or rot. Fruit prospect: apples, few; pears, few; grapes, good; cranberries, hardly an average crop; there are very few peach and quince trees here. Pasturage is in quite good condition for this season of year. Oats and barley were average crops. Celery and other late market-garden crops are in very good condition. Very few ducks or geese raised in this section, and no change in the interest.

BARNSTABLE COUNTY.

Falmouth (D. R. Wicks). — Indian corn is looking well, both in stock and ear, and promises to be a normal crop. Rowen is not much of a crop as yet, but is growing well. Late potatoes will be a one-half crop; some blight, no rot. Fruit prospect: apples, a light crop; pears, fully up to normal; peaches, a failure; grapes, normal; quinces, normal; cranberries, a one-half crop. Pasturage is in good condition. Not much barley and oats grown save for fodder. Late market-garden crops are in promising condition. Very few ducks are raised, and very few geese, if any. All varieties of fruit and vegetables are looking remarkably well for such a late, cold spring and severe drought. The early potatoes were pinched, so that the crop is a small one of small tubers, but with plenty of rain the late ones may do better.

Mashpee (W. F. Hammond). — Corn is looking well, — above the average. There will be about a one-half crop of rowen. Potatoes are doing well; no blight or rot. Fruit prospect: apples, a one-half crop; pears, one-third; peaches, one-half; grapes, three-fourths; cranberries, three-fourths. Pasturage is in about the average condition. Oats and barley are about a two-thirds crop. Market-garden crops are looking well. The production of ducks and geese has decreased about one-third.

Barnstable (John Bursley). — Indian corn is backward and a poor stand. Rowen will be a light crop. Prospect for late potatoes is very good; no blight noticed. Fruit prospect: apples, 50 per cent; pears, 85 per cent; peaches, 90 per cent; grapes, 100 per cent; cranberries, 90 per cent. Pastures are in very good condition. Oats and barley were rather lighter than usual. No market-garden crops grown except Cape turnips; these are growing well. No increase in interest in the production of ducks or geese noticed.

Dennis (Joshua Crowell). — Indian corn is looking well. Should say rowen will be better than average. Late potatoes offer a fair prospect; no blight or rot noticed. Fruit prospect: apples, fair; pears, below average; grapes, fair; cranberries, less than the average. Pastures and hay lands are looking remarkably well considering the season. But little oats or barley grown. The interest in the production of ducks and geese for market has increased slightly.

Brewster (Thomas D. Sears). — Corn is now in good condition as a result of the late rains. The prospect for rowen is good, the promise being for a full average crop. Fruit prospect: apples, good; pears, good; peaches, fair; grapes, fair; cranberry crop, poor on account of worms, and dry weather the first of the season. Pasturage is now looking good as a result of the recent rains. Oats and barley compare favorably with former years. All late market-garden crops are looking well. The interest in the production for market of ducks and geese has increased noticeably in recent years.

Wellfleet (E. S. Jacobs). — What little corn is raised in this locality is in good condition. Rowen crop will be larger than that of last year. Fruit prospect: apples, excellent; pears, plentiful; peaches, plentiful; grapes, normal; quinces, very good; cranberries, a large crop. Pasturage is now very good, the recent rains having greatly improved the uplands. Very little barley raised, but this is in good condition. Celery and late market-garden crops are in better condition than at this time for several years. The production of ducks and geese for market is very limited in this locality.

Truro (John B. Dyer). — Corn is in about normal condition, but very little is raised here. The rowen crop is better than the average, owing to late rains. The prospect for late potatoes is fair, and no blight has been in evidence. Fruit prospect: apples, below average; pears, average; peaches, average; grapes, good; quinces, rather shy; cranberries in this vicinity are more than the average. Pasturage is now in good condition since the recent rains. Very little oats and barley raised. Late market-garden crops are apparently in good condition. The interest in the market production of ducks and geese has shown something of a decline in recent years.

DUKES.

West Tisbury (George Hunt Luce). — Corn is in very good condition. Rowen prospect is very good. Late potatoes are somewhat below the average in condition, but no blight or rot is in evidence. Prospect for apples is fair; pears, good; peaches, below the average. Oats and barley are below the average. Pasturage is now in fairly good condition. The interest in the production of ducks and geese has undergone no marked change in recent years.

BULLETIN OF
MASSACHUSETTS BOARD OF AGRICULTURE.

DUCKS AND GEESE.

By John H. Robinson, Editor of "Farm-Poultry," Boston, Mass.

To say that ducks and geese should be grown by more people, and more extensively by many people who now grow them, is only to say what is true as to the growing of all kinds of domestic birds. It is only in a few special poultry growing districts in our own and other countries that the land is producing as much poultry as it should.

There is a widespread impression in this country that those who produce poultry, and especially the farmers who produce the great bulk of our general supply, provide liberally for themselves and their families first; and that what is sold by farmers is all surplus that the producers could not consume. The writer must admit that until very recently he shared this impression as to the general fact, although he knew that many producers did not use poultry and eggs at all freely. But within a year his attention was directed to the report of an agricultural survey which gave statistics for some six hundred farms in a good farming community, near a number of cities in another eastern state, which showed quite plainly that the farmers of that section were producing comparatively little poultry and consuming less poultry and eggs than the average city family in very moderate circumstances, — and that is not very much. The average city family does not use these things very freely. It is the well-to-do people and the high-priced restaurants and hotels and the high-toned clubs that buy the best poultry products the year round quite regardless of price.

Turkeys are not adapted to farms as small as the average farm in this state, but every farmer ought to be able to have for his own table all the fowls, ducks and geese his family want. With other meats at the prices which now prevail poultry grown at home should be cheaper than most of the meats that we buy, though for those who have to buy all kinds of meat it is not to be classed among the

cheap meats. The flesh of water fowl is more gamey than that of fowls. It is often said that the meat of domestic ducks and geese retains too much of the flavor of highly flavored things which they eat. This is the case only when they are not managed properly. Poultry of any kind will have such flavors if handled the same way. They must be kept where they will get nothing to eat that would give an undesirable taste to the flesh for about two weeks before they are to be killed.

While both ducks and geese like the water and will spend a great deal of time in it if they have the opportunity to do so, they can be grown without water except for drinking purposes. If they can conveniently be given access to water, they are easier to care for, more contented and keep themselves cleaner. But, while both are water birds, their habits are in some things quite different. A duck devotes its attention more to the insect life along streams. A flock of ducks will often follow a little stream for a mile or two, eating the small forms of life in the shallow water and the insects that hover near the surface of the water, and be too far away at night to return home. Ducks will live almost wholly on animal food if they can get it in a fresh, natural condition. One of the most profitable small flocks the writer ever saw was kept at a rendering plant and lived largely on flies, enormous numbers of which swarmed about the decaying meat scraps and filth that were all over the place. About two weeks before killing the young ducks were shut up and fed on grain. The owner said that she had no complaints about the quality of these ducks. Growing ducklings can take meat scraps in quantities that would soon kill young poultry of any other kind and grow remarkably on the heavy diet.

Ducks at all ages stand heavy feeding and close confinement so well that they are better adapted to intensive methods than any other poultry. There are very few farms in this country that grow 10,000 chickens a year. There are many duck farms growing from 15,000 to over 50,000 ducks annually. The ducks grown on these farms are known as green ducks, that is soft young ducks killed as soon as they have grown their frames. At this stage the ducks, if fat, are almost as heavy as they will be when mature and in fair flesh. The mature ducks sold in the markets are mostly from small flocks scattered all over the country.

While geese like the water, the principal part of their food — when they can get it — is tender grass and leaves of vegetables, and they will graze for hours just like sheep. There is an old saying "Geese eat everything before them and fowl everything behind them." This does not apply except where too many are kept on a tract of land. Geese are like all other animals in regard to feeding on land too thickly populated. Geese eat all sorts of insects, worms

and small creatures found in the water, but do not hunt these as persistently as ducks do. They eat grain readily and are sometimes grown on a diet containing little else. Some come to maturity on such a diet, but it is too heavy for them, and people who try to grow geese without liberal supplies of green stuff usually have considerable trouble. It is this class of growers that is responsible for the idea that goslings are hard to raise.

As they require so much green stuff, and do so much better when they can crop it for themselves, geese are not adapted to intensive methods, and there are no farms devoted exclusively to the growing of geese. Most of the geese on our markets come from small farm flocks. In a few districts nearly all the farmers grow geese to the number of several hundred each year. Where the industry is concentrated in this way the goslings are mostly sold young as green geese. Elsewhere most of the product goes to market when full grown at the winter holiday season.

Those who grow ducks and geese under such conditions that the expense is an appreciable item should always dispose of those that are to be sold before being bred from, as green ducks or geese, as the case may be. They bring a higher price per pound then because they are ready for market at a time when most of the young chickens are small, and there is more profit in marketing them at that age, not only because the price per pound is higher, but because the weight — though not the meat — is then almost as good as it will ever be. Those who grow ducks and geese for their own tables usually kill a part in the green stage, but save more to be killed when they come to full maturity. If much of the food for them has to be bought they are really more costly then than the soft bird that is so largely composed of fat, but they are much better eating.

If not killed in the green stage, when about nine to twelve weeks old, it is practically necessary to keep them until full-grown, because at about three months of age they molt their "chick" feathers and begin to grow the adult plumage. From that time until the adult plumage is complete — between two and three months — they are so full of pin-feathers that it is very difficult to pick them clean. They are also usually very poor in flesh during the early part of this period. Most people find the work of picking ducks and geese very tiresome at best. That perhaps is one reason they are not more generally grown for home consumption. They are much harder to pick than fowls and turkeys at any time but are easier to pick when full feathered than when young. It is, too, largely a matter of being in practice. If people eat a great deal of poultry of their own production they soon become expert enough in picking to get over the eagerness to avoid a job that goes a little hard. Picking poultry for home use is not as particular work either as picking

it for market. If a bird is a little torn the quality is not really damaged, but as the appearance is damaged it must be sold for a lower price.

Both ducks and geese lay either in the latter part of the night or very early in the day. Ducks are especially careless about laying in nests. A duck will often make her nest and fuss around it for hours, then go and drop her egg away from it. For this reason it is the usual practice to keep ducks that are not confined to small yards in the house until about eight o'clock in the morning, by which hour, as a rule, all will have laid that are going to lay that day. A goose, having made a nest, will usually lay in it, but does not like to be interfered with when at her nest.

Ducks are polygamous in mating. It is usual to mate one drake with five ducks early in the season, and when the weather is warm take some of the males away, leaving one drake to eight or ten ducks. Geese, if allowed to do so, would often pair. Young ganders frequently will mate with only one goose. An old gander will mate with two or three more. The males and females mated together show strong attachment for each other, so much so that when a mating is broken up and the birds in it mated with others they often fail to breed the first season.

Where large numbers of ducks are grown, hatching is usually by the artificial method. For small numbers either incubators or hens may be used. Ducks of the large improved breeds very rarely go broody. So if the natural method of hatching is used the duck grower has to depend upon hen mothers. In the early days of duck farming on Long Island, where the industry began in this country, all the hatching was done with hens. In those days 5,000 ducks was considered a large number. After the introduction of machine hatching the industry grew amazingly. Before that it had been given quite an impetus by the introduction of the Pekin Duck, which suited the growers better than anything they had previously known, and still suits them better than anything else that has been tried. As these men are in the business for a living it is perhaps not necessary to say that they try everything.

The White Pekin Duck is practically the only duck grown especially for market in America. The Rouen Duck at maturity is really a better table duck but its dark plumage makes it undesirable for growing to be dressed as a green duck. The Indian Runner Duck is the best layer of the duck family. It has been extensively boomed as superior to hens for egg production, but the claims made for it are based on exceptional performances. It is too small to meet the general demand for a market duck.

Even when coming to maturity early in the fall ducks (with the exception of the Indian Runner) rarely begin to lay until mid-

winter or after. In fact they will not lay until near spring unless well housed and fed stimulating food. If left to follow their own inclination neither ducks or geese seek shelter from cold. The duck grower who wants his ducks to lay early houses them at night and during storms, and gives them access only to yards somewhat sheltered from the coldest winds. While the composition of mashes used by different duck growers varies, the differences in ingredients are not important. A good mash which represents the average is made of corn meal 3 parts, wheat bran 3 parts, low grade flour 2 parts, beef scraps 1 part, root vegetables (cut) 1 part, cut alfalfa, clover or green rye 1 part. This is fed twice a day, night and morning. Some growers give a little cracked corn at noon to ducks that are laying heavily.

Duck eggs take four weeks to hatch. A mash the same as used for the breeding stock may be given the young ducklings from the start. It is customary to mix a little fine grit or coarse sand with the feed for a few days, and occasionally afterwards if the birds show symptoms of indigestion. This seems to be the more necessary when the ducklings are confined to brooder houses or are quite crowded in small bare yards than when they have a run on grass. Some of the best young ducks the writer has ever seen never had grit in the mash, but had plenty of green food at all times.

When young ducks are closely confined the usual practice is to feed five times a day for the first three or four weeks, then four times a day for a like period, and after that three times daily. When they have grass range three meals will be sufficient from the first. For fattening, which usually begins about the eighth week, the ration given above is changed to a fattening ration by omitting the wheat bran and increasing the beef scrap.

For green ducks the ducklings are killed at about ten weeks of age. In the early part of the season, when the price is up and likely to drop quickly at any time, ducks that are well grown may be killed at nine weeks. Later when the price does not change much the grower is likely to keep, until they have made all the weight they will at this stage, all ducks not needed to fill regular orders. The weights of ducks at this age run from four to seven pounds dressed.

In New England ducks and geese are dry picked. Elsewhere in the country they are mostly scalded or steamed to loosen the feathers before picking. The consumption of green ducks is still limited mostly to the large cities of the east, but is steadily increasing in them and spreading to other places. As the prices are to some extent influenced by the prices of other meats, there is occasionally a period and sometimes almost an entire season when the duck growers' profits are small, but on the whole the business pays well. Enormous

quantities of green ducks go into cold storage in the latter part of each season, when prices are at the lowest, to be taken out as wanted through the period when no fresh green ducks are coming in. The ducks in storage are usually owned by dealers who buy the product of large growers.

The flocks of geese from which most of our market geese come are principally of mixed races. Some growers keep pure Toulouse, Emden or African stock, but in going about goose-growing districts one is more likely to see flocks that are plainly a mixture of all these with common geese. Sometimes the geese are common or grade geese and the ganders of various pure races. As geese after mating once remain true to their mates some growers mate several kinds separate for the first season and afterwards let all run together. So in these cases what looks like a mixed flock will produce mostly pure goslings of the various races in it.

Growers of geese do most of their hatching with hens in the early part of the season, and use both hens and geese in the latter part. A few people have been successful in hatching goose eggs in incubators, but operations are generally on too small a scale to make it worth while to use machines, especially as the geese lay only a short time in the spring and may as well hatch and rear a brood apiece as not.

The old geese, as has been said, prefer to remain out doors in all weathers. Under ordinary conditions it is as well to allow them to do this, for though they may not lay quite as early, there is no great advantage in getting goslings out before they can have grass pasturage. During the early part of the winter in this section the breeding geese usually do very well on what green food they can get when the snow is off the ground with two light feeds of grain a day. They should not be fed heavily on grain because then they get too fat and the first eggs they lay are likely to be infertile or to produce weak goslings.

About the latter part of February or the early part of March, according to conditions and the weather, the geese begin to lay. At this time they should be fed a mash, such as is described above for ducks, once a day, a feed of cracked corn and oats once a day and all the root and leaf vegetables that they will eat. The number of eggs a goose will lay before going broody varies. Some lay only from twelve to fifteen, some twice as many. Occasionally a goose will lay steadily and produce fifty, sixty or more eggs in a season. As a rule, however, after laying from twelve to twenty eggs geese become broody. The usual practice is to set the eggs laid during this first period under hens and break up broodiness in the geese and get them to lay again as soon as possible. When the geese begin laying again they are not likely to lay as many eggs as in

the first period and the grower considers this and tries to have eggs on hand to set his geese as they go broody the second time.

When the eggs are hatched under hens each hen is given four or five eggs according to the size of the hen and the size of the eggs. If the hen happens to be very small and the eggs very large, three eggs may be enough. She will hatch stronger goslings than if given four or five eggs, and it is the strong goslings that count. A goose will cover from twelve to fifteen of her own eggs.

The goslings that are hatched with hens require the care of the hen for only a short time. If the weather is seasonable some growers take the hens away as soon as the goslings are ready to be taken from the nest and put the youngsters in small pens in sunny places during the day and in boxes indoors at night. In any case the goslings will in ten days grow so large that a hen mother is of little further use to them. Goslings reared by hand or with hens should have small movable pens and be moved to fresh grass as often as necessary. They may be fed the same mash recommended for young ducks several times a day, or may have some feeds of this and some of cracked corn soaked in water, or may be fed only the cracked corn. Usually they will grow better with some mash. The principle upon which they are fed should be to let them have all the grass and green food they will eat and what grain they want in addition. There is little, if any, danger of their taking too much of anything else if they have all the tender green stuff that they want. When goslings are hatched and brooded by geese they require very little attention. On a good grass run, with access to a little grain once or twice a day, the geese will bring up their goslings and protect them from most of the enemies of poultry.

Under favorable conditions goslings grow very rapidly. At nine to twelve weeks of age a good gosling should weigh a pound for each week of its life. If they have had good feeding, with a fair allowance of grain, they will be quite fat at that time. If not they should be fattened before killing. Some growers fatten their own goslings but many sell the goslings in a thin state to men who make a specialty of fattening poultry. The birds are fattened by feeding heavily of scalded corn meal or of meal with a little bran and beef scrap added.

The conditions of picking and marketing green goslings are much the same as for green ducks, except that a larger proportion of them are held for the winter holiday trade.

SERIES OF 1912. VOL. 25. NO. 5.

LIBRARY of the Massachusetts Agricultural College OCT 1 1912

MASSACHUSETTS CROP REPORT

FOR THE

MONTH OF SEPTEMBER, 1912.

PRUNING THE APPLE TREE.

ISSUED MONTHLY, MAY TO OCTOBER, BY STATE BOARD OF AGRICULTURE, STATE HOUSE, BOSTON, MASS.

J. LEWIS ELLSWORTH, *Secretary.*

ENTERED JUNE 3, 1904, AT BOSTON, MASS., AS SECOND-CLASS MATTER, UNDER ACT OF CONGRESS OF JUNE 6, 1900.

BOSTON:
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
18 POST OFFICE SQUARE.
1912.

Approved by

The State Board of Publication.

Crop Report for the Month of September, 1912.

Office of State Board of Agriculture,
Boston, Mass., Oct. 1, 1912.

The September number of the Crop Report is herewith presented.

At this time most crops have been harvested, and the returns are actual facts and not simply estimates of future results. These returns, therefore, will be of even greater interest than those made when the crops were growing. With the frosts of this month we may now be assured that the year 1912 is a most unusual one, in that frosts have occurred more or less generally every month of the year.

The special bulletin in this issue is an article by Dr. C. D. Jarvis, of the Connecticut Agricultural College, on "Pruning the apple tree." This article in a measure supplements the bulletin on "Apple growing" which was recently published by this Board. The photographs which accompany the article serve to emphasize the accepted idea of pruning young trees, that tendency which goes toward keeping the tree low and open, which is so ably discussed in the article. The advantages of the low tree in picking and spraying operations are very apparent to the most casual observer, and it will readily be seen that, by keeping a tree cut back in the center and open so that the sun can thoroughly penetrate the foliage, the fruit must be greatly benefited. Dr. Jarvis gives some very valuable pointers as to proper methods of pruning.

Progress of the Season.

The Crop Reporting Board of the Bureau of Statistics of the United States Department of Agriculture estimates, from the reports of the correspondents and agents of the Bureau, as follows for the United States: —

Crop.	Condition September 1 (Per Cent).			Condition Aug. 1, 1912 (Per Cent).	Acreage, 1912.	
	1912.	1911.	Ten-Year Average.		Per Cent of 1911.	Acres.
Corn,	82.1	70.3	81.1	80.0	102.2	108,110,000
Winter wheat,	–	–	–	–	88.3	25,744,000
Spring wheat,	90.8[1]	56.7[1]	76.5[1]	90.4	94.2	19,201,000
All wheat,	84.3[1]	69.0[1]	78.8[1]	–	90.7	44,945,000
Oats,	92.3[1]	64.5[1]	78.8[1]	90.3	100.2	37,844,000
Barley,	88.9[1]	65.5[1]	81.2[1]	89.1	99.3	7,574,000
Rye,	–	–	–	–	98.6	2,997,000
Buckwheat,	91.6	83.8	86.4	88.4	100.2	835,000
White potatoes,	87.2	59.8	79.6	87.8	101.9	3,689,000
Tobacco,	81.1	71.1	81.6	82.8	117.9	1,194,200
Flax,	86.3	68.4	80.3[3]	87.5	108.5	2,992,000
Rice,	88.8	87.2	87.9	86.3	102.0	710,100
Hay, all tame,	–	–	–	91.0	102.0	49,209,000
Apples,	67.9	56.2	53.8	65.8	–	–

[1] Condition at time of harvest. [3] Nine-year average.

The yields indicated by the condition of crops on Sept. 1, 1912, and final yields in preceding years, for comparison, follow: —

Crop.	Yield per Acre (Bushels).			Total Production in Millions of Bushels.			Increase (+) or Decrease (—) in Prospects during August (Per Cent).
	1912.[1]	Final. 1911.	Average, 1906-10.	1912.[1]	Final, 1911.	Final, 1910.	
Corn,	27.7	23.9	27.1	2,995	2,531	2,886	+ 6.5
Winter wheat,	15.1[2]	14.8	15.5	390[2]	430	434	–
Spring wheat,	15.6	9.4	13.4	300	191	201	+ 3.4
All wheat,	15.4	12.5	14.6	690	621	635	+ 1.5
Oats,	34.1	24.4	28.4	1,290	922	1,186	+ 6.9
Barley,	27.6	21.0	24.8	209	160	174	+ 3.5
Rye,	16.9[2]	15.6	16.3	35[2]	33	35	–
Buckwheat,	21.3	21.1	19.5	18	18	18	+12.5
White potatoes,	108.0	80.9	96.8	398	293	349	+ 7.3
Tobacco (pounds),	817.1	893.7	828.0	976	905	1,103	— 0.4
Flax,	9.7[3]	7.0	8.7	29	19	13	+ 3.6
Rice,	32.7	32.9	32.4	23	23	25	0.0
Hay, all tame (tons),	1.47[2]	1.14	1.42	72[2]	55	69	— 1.4

[1] Interpreted from condition reports. [3] Based on average for 1905-09.
[2] Preliminary estimate.

Quality of the hay crop is 92.1, against 90.3 last year and a 10-year average of 91.

Average Condition of Specified Crops, United States.

[From the Crop Reporter of the United States Department of Agriculture for September.]

The vicissitudes of the season of 1912 are reflected in the following statement of the condition of important crops on the first of each month, from June to September, expressed in comparison with average conditions (100 representing the average condition, not the normal): —

Crop.	June 1.	July 1.	Aug. 1.	Sept. 1.	Crop.	June 1.	July 1.	Aug. 1.	Sept. 1.
Barley,	100.3	102.7	107.2	109.5	Peaches,	108.5	124.1	123.7	130.0
Buckwheat,	–	–	98.0	106.0	Beans (dry),	–	97.8	98.5	100.5
Corn,	–	96.3	96.6	101.2	Beans (lima),	100.3	104.1	104.3	100.6
Oats,	103.1	105.2	110.9	107.1	Cabbage,	101.4	102.3	103.7	108.4
Rice,	–	98.0	98.2	101.0	Onions,	100.1	101.6	103.5	106.4
Rye,	97.8	98.1	–	–	Potatoes,	–	99.6	103.5	109.5
Wheat, spring,	102.1	104.3	112.6	118.7	Sweet potatoes,	–	99.4	98.6	98.4
Wheat, winter,	91.8	91.4	–	–	Tomatoes,	–	103.9	105.9	106.5
Alfalfa,	103.7	107.8	104.9	105.1	Broom corn,	–	104.9	102.2	103.2
Clover,	100.6	97.1	101.7	106.9	Cotton,	96.8	99.6	94.9	101.6
Hay (all),	103.5	104.7	110.2	–	Flaxseed,	–	102.2	106.2	107.5
Kafir corn,	–	108.0	103.5	105.2	Hemp,	92.2	101.9	103.9	109.9
Millet,	–	105.3	107.2	106.2	Hops,	–	107.1	105.0	102.4
Pasture,	104.9	94.8	99.9	–	Peanuts,	–	100.6	99.4	98.6
Timothy,	–	98.0	104.3	–	Sugar beets,	96.0	100.5	98.3	101.0
Apples,	112.2	115.9	122.1	126.2	Sugar cane,	90.7	89.3	93.2	93.2
Grapes,	–	105.1	106.1	105.4	Tobacco,	–	103.7	101.2	99.4
Lemons,	–	91.1	94.1	97.8	Sorghum,	–	102.3	99.5	102.0
Oranges,	–	96.8	101.5	103.8	All crops,	99.1	98.8	100.3	104.1
Pears,	–	106.4	105.5	110.8					

Temperature and Rainfall for the Whole Country.

[From the United States National Weekly Weather Bulletin.]

Week ending September 2. — At the beginning of the week the temperature was high over nearly all districts from the Mississippi valley eastward. With the advance of the week the cool weather moved eastward over the Lake region, Ohio valley, Middle Atlantic States and New England, and it continued cool until after the middle of the week in those districts, the coldest August weather in many years being reported from northern New York and portions of New England at the morning observations of Friday and Saturday. For the week as a whole the mean temperatures continued above the normal, as in the previous week, in all districts to

the eastward of the Rocky Mountains, save along the extreme northern border and over the Atlantic coast from Maryland northward. Over New England and the northern portions of the Middle Atlantic States the week was almost continuously cool. Local showers with occasional heavy thunderstorms prevailed at the first of the week from the lower Mississippi valley northeastward to New England, and light showers occurred locally in the northern portions of the Rocky Mountains and Plateau regions. During Wednesday and Thursday a low barometric pressure area moved rapidly from the northern Rocky Mountains to the Lake region and New England, accompanied by local with occasional heavy rains in the Ohio valley and Lake region. This was followed by another low area, which brought more or less rain over the same districts during Friday and Saturday. Near the end of the week local rains occurred in the Middle Atlantic States, upper Ohio valley and the northwest, and at points in the southern Rocky Mountain region; elsewhere during the latter part of the week, especially over the Great Plains region and in the south, there was a very general absence of rain. The areas with 1 inch or more were confined principally to the northern tier of States, from the eastern portion of the Dakotas to New England, and to the lower Mississippi valley and the far northwest, and there were scattered amounts of near 1 inch at points in the Rocky Mountain region.

Week ending September 9. — Continued warm weather marked this week. After the first few days the cool weather that had prevailed over the Lake region and New England gave way, and during the remainder of the week high temperatures prevailed in practically all portions of the country to the eastward of the Rocky Mountains. For the week as a whole the mean temperatures were above the normal in all districts to the westward of the Rocky Mountains. Minimum temperatures were generally above 50° from the Great Plains eastward to the Atlantic, but over the far western districts they were below 40° in many sections, and near or below freezing at exposed points in the middle Plateau and northern mountain regions. No well-developed rain area

crossed the country during the entire week, and such rain as occurred was confined to light local showers, with occasional heavy falls in connection with thunderstorms. At the beginning of the week showers were reported from the Lake region eastward to the Middle Atlantic States and New England, and a few heavy falls occurred in the middle Missouri valley. During the remainder of the week showers were light and widely scattered, save in the upper Lake region, near the south Atlantic coast, in the northwest and along the Pacific coast, where local heavy rains occurred during the middle and latter part of the week. For the week as a whole the precipitation was probably the least for any like period of the season. From the Rocky Mountains eastward there was nearly everywhere a deficiency in the rainfall, excesses occurring only over small areas in the middle Missouri valley, the upper Lake region, portions of New England, New York, Pennsylvania and Maryland, and locally at a few places in the South Atlantic and east Gulf States.

Week ending September 16. — The high pressure in the far northwest at the beginning of the week advanced to the northern Rocky Mountain region by Tuesday morning, and a change to cooler weather overspread all northern districts from the upper Mississippi valley westward, and at the same time low temperatures had penetrated to the middle and southern Plateau regions, with frosts at exposed points. The high-pressure area developed considerably by Wednesday morning, its influence extending over all northern and central districts from the Lake region westward, but thereafter its intensity diminished, and only moderately cool weather attended its progress over the more eastern districts. For the week as a whole the mean temperature continued above the normal from the eastern portions of the Great Plains region to the Atlantic coast, the region of greatest excess extending from southwestern Texas northwestward to southern New England. At the beginning of the week local rains were in progress over the South Atlantic and east Gulf States and in the upper Lake region, upper Mississippi valley and in the mountain districts of the west. Showers continued in the southeastern States during much of the

week, in connection with a gulf storm of moderate intensity which finally moved inland over southern Alabama and western Florida during Friday night and Saturday morning. This storm moved rapidly northward to the lower Ohio valley by Sunday morning, but with much reduced intensity, and then to the lower Lake region and the middle Atlantic coast by the close of the week, accompanied through its course generally by light rains but with occasional heavy falls. For the week as a whole the precipitation continued deficient, as during the preceding several weeks, over much of the great cereal and cotton-growing districts. The most marked deficiency occurred in Texas and thence northeastward over the middle and lower Mississippi valley to the Lake region and in the middle Atlantic States. Over much of the east Gulf and South Atlantic States there was more than the normal rainfall, and like conditions prevailed generally over the middle and northern portions of the Great Plains, in the northern Rocky Mountain region and in portions of the upper Mississippi valley, in the vicinity of Lake Michigan and over portions of the north Atlantic States.

Week ending September 23. — The week commenced cold, which continued during the first few days throughout nearly all northern and central districts, freezing temperatures occurring in the northern and central portion of the mountain regions and extending into the western portions of the Great Plains region. By the middle of the week warmer weather developed over the mountain and Great Plains districts, and unusually warm weather prevailed along the middle Pacific coast. Cold weather continued until the end of the week in the districts to the westward of the Mississippi, except along the Pacific coast, and it continued cool during the latter part of the week in the Lake region, Middle Atlantic States and New England. Over the Atlantic coast and Appalachian Mountain districts, the east Gulf States and along the immediate Gulf coast the average temperature for the week was, as a rule, somewhat above the normal. At the beginning of the week local showers prevailed in the Lake region and at scattered points in the Mississippi and Ohio valleys, the rainy area extending quite generally during

Wednesday and Thursday to the east Gulf and Atlantic Coast States, with some heavy falls at widely scattered points. By the middle of the week low pressure over the Gulf of Mexico had caused local showers along the coast, extending over the Florida Peninsula and portions of the South Atlantic States, and light showers had fallen in New England and the northern portion of the Middle Atlantic States. Rains continued during Saturday and Sunday in many portions of the country. For the week as a whole the amounts of precipitation were fairly generous over the Mississippi and Ohio valleys, Lake region, east Gulf and South Atlantic States, in the upper Missouri valley and in northern New England. Along the middle Atlantic coast and over southern New England the amounts of precipitation were quite small, practically none occurring at some points.

Special Telegraphic Reports.

[Weather Bureau, Boston.]

Week ending September 2. — New England. Boston: Moderately low temperature prevailed. Light frosts were reported in many localities the last of the week. The rainfall was about normal. Warmer weather and more sunshine are needed.

Week ending September 9. — New England. Boston: Occasional showers occurred during the week, but the total amounts were generally small. The higher temperatures, averaging somewhat above normal, and more sunshine made excellent conditions.

Week ending September 16. — New England. Boston: Showers occurred at the beginning and end of the week. The rainfall and temperature both were generally above normal, and conditions were favorable.

Week ending September 23. — New England. Boston: Rainfall was heavy in parts of the northern portion, but light in southern. Temperature was seasonable the first and low the last of the week. Frost occurred in some sections Sunday night.

The Weather of September, 1912.

The weather of the month was very near the seasonal average, with the exception of the rainfall, which was from 25 to 40 per cent below the September average. While the month was somewhat warmer than usual, the daily temperatures averaging about 1° above the normal, there were no very warm days, and very few on which the maximum temperature rose to 90° or above. The first few days were cool, followed by daily mean temperatures ranging from 1° to 10° above the September average from the 4th to the 19th inclusive, so that at the end of the third week there was an accumulated excess of temperatures, as compared with the normal, of from 60° to 70°; but during the last decade there was almost a daily falling off of from 2° to 8°, making the monthly average but little above the normal. The rainfall, while considerably below the normal, was quite well distributed through the month, resulting in little complaint from the dry weather and the deficiency in precipitation. Severe local storms occurred in some sections, but there was an absence of prolonged storms of heavy rains and high winds that are in some years characteristic of the month. Dense fogs were infrequent, and the percentage of easterly winds was low. Notwithstanding the small rainfall of the month the cloudiness was up to the average. The weather as a whole was very favorable to outdoor work and to agricultural pursuits, and, owing to its mildness, there was no general damage to crops from frost.

Publications of the Month.

Copies of the August Crop Report may still be had by applying to the office of the Board of Agriculture. "Ducks and geese" is the title of the special bulletin printed in that issue, and Mr. John H. Robinson, editor of "Farm Poultry," deals very fully with the subject, discussing not only the different phases of growing these fowls, but also touching upon the marketing end of the business.

"Food value of milk, its use and care by consumers," is the title of Circular No. 1 of the State Board of Agriculture.

This is by Mr. P. M. Harwood, general agent of the Dairy Bureau of the Board, and is primarily intended as a means of educating the consumer to the fact that milk is a valuable food, even at 12 cents a quart. Interesting comparisons are made as to the actual food value of milk as compared with other food products. This is the first of a series of circulars which will be published by the Board. Circular No. 2 will deal with insecticides and fungicides and their application, and will be published in the near future.

Fall Exhibitions.

The Massachusetts Fruit Show.

The Massachusetts Fruit Show is to be held this fall at Horticultural Hall, Boston, November 7 to 10, inclusive, by the Massachusetts State Board of Agriculture and the Massachusetts Fruit Growers' Association. This show is to be held in conjunction with the Chrysanthemum Exhibition of the Massachusetts Horticultural Society. This will make a combination which should attract a very large number of exhibitors, as the premiums are not only novel but also are very liberal. No one who is interested in either flowers or fruit should miss this show, for the best of each that Massachusetts can produce will be there.

All entries should be sent to F. Howard Brown, secretary of the Massachusetts Fruit Growers' Association, Hosmer street, Marlborough, Mass. Premium lists, with entry blank, may be secured by applying to Mr. Brown, to Mr. Wilfrid Wheeler, chairman of the executive committee, Concord, Mass., or to this office. No entries will be accepted later than November 5.

New England Corn Exposition.

On November 20 to 24, inclusive, the New England Corn Exposition, Inc., will hold its second bi-annual exhibition in Horticultural Hall, Boston. The last New England Corn Show was an immense success, and great good was accomplished. Wide enthusiasm has been manifested, and indications point to a still better show this fall. Premium lists,

containing entry blank, can be secured from the secretary, G. E. Stickney, Newburyport, Mass., or by applying to the office of the Board of Agriculture.

Summary of Crop Conditions.

In the circular to correspondents, returnable September 23, the following questions were asked: —

1. How does the crop of Indian corn compare with a normal crop?

2. Is the rowen crop up to the usual average? Fall feed?

3. Has the usual amount of fall seeding been done? What is its present condition?

4. How does the onion crop compare with a normal crop?

5. How do potatoes compare with normal, in yield? in quality?

6. What is the prospect for root crops? for celery? for other late market-garden crops?

7. How do the following fruits compare with the average, in yield: apples, pears, peaches, grapes, cranberries? In quality: apples, pears, peaches, grapes, cranberries?

8. Has there been any damage from early frosts? If so, on what dates? To what crops? To what extent?

9. Is there an awakened interest in modern methods of pruning and the general care of the apple orchard in your vicinity, and has this interest been made manifest in larger yields of better fruit?

Returns were received from 117 correspondents, from which the following summary has been compiled: —

Indian Corn.

The warm weather of the past month, with the absence of killing frosts except in restricted areas and on low and exposed sections, has been of immense benefit to the corn crop, transforming what promised but a very meager crop into what will prove to be a very satisfactory one. Returns show that the crop is in much better condition in the eastern and southeastern counties than in the western part of the State. Figures given in the returns indicate that the crop is about

88 per cent of normal for the State, being divided up by counties about as follows (100 representing a normal crop): Berkshire, 70 per cent; Franklin, 82 per cent; Hampshire, 75 per cent; Hampden, 80 per cent; Worcester, 82 per cent; Middlesex, 85 per cent; Essex, 90 per cent; Norfolk, 90 per cent; Bristol, 99 per cent; Barnstable, 100 per cent; Dukes, 100 per cent.

Rowen and Fall Feed.

In the western part of the State, beginning in Worcester County, the rowen crop is very much below the usual average. Some correspondents report that very little, if any, will be cut, and that only upon low, wet lands. The droughts of previous recent years have damaged the turf very badly, in many instances having killed the roots of the grass, and the severe drought of this season on top of this has so affected the mowings that, although frequent and abundant rains came to relieve the drought, they have not been sufficient to bring grasslands back to normal. The eastern counties appear to be more fortunate, Essex, Plymouth and Bristol appearing slightly below the usual average, while Norfolk and Barnstable report rowen slightly above the average condition.

The condition of fall feed is nearly the same, although, in general, it is reported in better condition than rowen. Berkshire County reports it nearly up to average; Franklin, Hampshire, Hampden and Worcester, below; Middlesex, Essex, Plymouth, Bristol and Dukes, about average; and Norfolk and Barnstable report above average. The generous rains and warm weather have proved a great help to all grassland, and, but for these factors, mowings and pastures would now be in a hopeless condition.

Fall Seeding.

The lateness of the season has necessitated the postponement of fall seeding to some degree, and at time of reporting it was found that the work had by no means been completed. In general, the returns indicated, however, that the usual amount either had been, or would be, done, although Hampden

and Essex counties had not done quite as much as usual, and there had not been quite as much done on Martha's Vineyard. On the other hand, Worcester, Middlesex and Norfolk county returns indicate that slightly more fall seeding was either done or contemplated than usually is undertaken. The condition of the various crops is reported almost universally as excellent, owing to the favorable growing conditions which have prevailed during the past month. But four reports from the whole State indicate that the condition is below normal. Prospects at this writing, then, are that fall seeding will have good opportunity to become well established before severe weather, and will be able to winter in good shape.

Onions.

In general, it may be said that the onion crop is an average one, or slightly above the average, with prices which range very low. The majority of our correspondents do not report on this crop at all, and numbers report "grown for home use only." Reports from the onion district in Franklin County and from the market-garden sections in the vicinity of the cities indicate a better-than-average crop. One of our oldest correspondents, Mr. Wicks of West Falmouth, makes the following interesting statement: "Not many grown here now; in former years thousands of bushels were grown."

Potatoes.

The latter part of the season has proved very favorable to the development of late potatoes. Our last report indicated a fair to medium crop. The returns for September denote a crop above normal in Essex, Norfolk and Plymouth counties, a normal crop in Barnstable, a 90 per cent crop in Middlesex and Bristol counties, and 70 to 84 per cent of normal in the remaining counties of the State. In general, the quality of the crop is excellent. Weather conditions have not been favorable to the development of blight and rot, and, while a few reports indicate poor quality, the vast majority indicates exceptionally sound potatoes, unusually free from scab. This is *prima facie* evidence of the employment of the

precautions which are advocated for best results, and which, when more universally practiced, can only result in bigger crops of better potatoes.

Root Crops, Celery, etc.

The prospect for root crops is very good in all sections of the State. The late-sown crops have made steady and satisfactory growth, and reports are fairly uniform, indicating a good yield in all parts of the State. While celery is not reported upon as generally, owing to the fact that it is grown less generally, the indications point to a very good crop, which has been greatly benefited by the rains during the latter part of the summer. Other late market-garden crops also promise good returns in all sections. The conditions prevailing during the month of September have been ideal for all market-garden crops, and, although some are a trifle late, the prospect for a prolonged growing season is excellent, and this will insure good results from all.

Fruits.

The apple crop is considerably below the average for the State as a whole, — a conservative estimate, from the figures at hand, being from 68 to 70 per cent of an average crop, showing a marked gain over returns of last month. Franklin, Norfolk and Plymouth counties show the highest percentages, and Essex County figures indicate the smallest crop, compared with the average in these counties. In quality, the crop will be excellent, nearly all returns attesting to this fact. Doubtless the drop which was caused by the drought of early summer acted as a thinning, resulting in better development of the remaining fruit. In this result is found a forcible argument for judicious and timely thinning, soon after the fruit is set. Pears are about a 55 per cent crop for the State as a whole, and the quality of the crop is, in general, very good. Peaches in the State were a very poor crop this year, owing to the fact that they were badly injured and many were winterkilled by the severe weather last winter. In many sections the crop was almost an entire failure, and in no

locality was there a good crop, although Norfolk, Bristol, Plymouth and Barnstable counties report about a 50 per cent crop. The quality of the crop was usually very good. Grapes proved to be a very good crop, ranging from 80 to 100 per cent of an average crop. They were also excellent in quality, and were not injured by frost to any extent. The cranberry crop is not especially good, probably about 65 to 70 per cent of an average crop. The quality of the crop is very good in general, although, of course, there is more or less damage from insect enemies.

Frosts.

While there have been no very serious frosts during the past month, returns indicate that quite general frosts occurred on August 28, 29, 30 and 31 and upon September 1, while local frosts were reported upon September 5, 22 and 23. The damage has been slight in all cases, but corn seems to have been the worst sufferer, squashes, cucumbers and beans next, and scattered reports of injury to potatoes, tomatoes, buckwheat and garden crops in general were received, and one report mentions damage to Hungarian millet. The absence of killing frosts during September has been a great blessing, as most crops were late and have had at least partial opportunity to acquire their normal development.

Apple Growing.

The replies to the question as to whether or not there is an awakened interest in modern methods of orcharding, which has resulted in larger yields of better fruit, are very interesting. It is plainly seen that this interest has developed very rapidly during the past few years, and is taking a firm hold on the rank and file of apple growers. Following are some of the replies to this question: "Much interest and better fruit." "There has been a general improvement in the care of orchards." "There is, with a much better yield and a very much better quality of apples." "Much improvement in orchard management, resulting in larger yields of better fruit." "Spraying is more generally practiced, with marked

results." These are a few replies which go to show what has been the result of agitation of recent years for better fruit, through the fruit shows, demonstrations, etc. The need now is for a better knowledge of packing and marketing. A start has been made this fall in this direction by the sending to a circuit of fairs of an exhibit of methods of packing apples for market in boxes. This exhibit was prepared and sent out by the Board of Agriculture, and has awakened a lively interest in improved methods of grading, packing and marketing. The progress in the fruit industry during recent years is very gratifying.

NOTES OF CORRESPONDENTS.

[Returned to us September 23.]

BERKSHIRE COUNTY.

New Marlborough (E. W. Rhoades). — Corn has improved very much of late, but is not quite a normal crop. Not much rowen will be cut this year. Fall feed has improved lately. The usual amount of fall seeding has been done, and the growth is rank and even. The onion crop is a good one. A few pieces of potatoes are very nearly a failure; others are fair to good, and the quality of all is generally good. Root crops are in fine condition; there is not much celery raised here. Fruit, yield: apples, 75 per cent; pears, 25 per cent; peaches, none to speak of; grapes, 100 per cent; cranberries, 40 per cent. Fruit, quality: apples, 100 per cent; grapes, 100 per cent; cranberries, excellent. There have been no frosts to date. Apple orchards in this vicinity are somewhat neglected.

Becket (Wm. H. Snow). — Indian corn is very late, but some will ripen, as frosts are holding off well. The rowen crop is not up to the average, and only moist land will be cut. Fall feed is about normal. The usual amount of fall seeding has been done, and it is now in good condition. While the quality of potatoes is good, there is much complaint that there are few in the hill, with many small ones. The prospect for root crops is very good; celery looks small; there is good prospect for other late market-garden crops. Fruit, quality: apples, good; pears, good; cranberries, good. Frost on September 1 injured corn, squashes and cucumbers, hurting the corn fodder, but not the ears. There is considerable interest in better methods in orcharding and the production of better fruit. I do not remember when we have had such an unfavorable season for crops in general.

Stockbridge (F. A. Palmer). — Many pieces of corn are very late, and there will be about 80 per cent of a normal crop. The rowen crop will be about 50 per cent of the usual average. Fall feed has shown an improvement with the recent rains. The usual amount of fall seeding has been done, and it is doing finely. The yield of potatoes will be about 60 per cent of normal; quality, fair. Root crops are doing very well; the prospect for celery is extra good, and other late market-garden crops seem to be doing

well. Fruit, yield: apples, 50 per cent; pears, 20 per cent; grapes, 90 per cent. Fruit, quality: apples, good; grapes, good. There has been no damage from early frosts as yet. There is a decided awakening of interest in modern methods of orcharding; many are now spraying their trees to destroy the scale, and get better fruit. New trees are being set out and old ones are being pruned, fertilized and cared for. All are watching the results of those who give their trees special care in order to secure better products.

West Stockbridge (J. S. Moore). — There is about the usual amount of Indian corn; some complain that it is not ripening up as it should. The rowen crop in general is up to the average, and in some locations better. Fall feed is unusually good. The usual amount of fall seeding has been done, and is now in fair condition. There will be considerably more than a normal crop of potatoes of fine quality, where adequate care is given. It has been a good potato season, and prices will not be equal to those of last year; some few complain of rot, but so far such complaint is not very noticeable. Very few root crops and celery are raised here, but these are in good condition. Fruit, yield: apples, less than a one-half crop, but of very good quality; pears, very few; peaches, none raised; grapes, none; cranberries, none. There have been no frosts as yet to injure vegetation. Very little attention is given to the orchard; some few have trimmed their trees and sprayed them. Farmers, as a rule, do not realize the money there is in a good orchard, and that branch of farming is too often sadly neglected, old trees dying out and not being replaced until, all too soon, there are only apples enough for family use. Dairy farming seems best adapted to this section, and with good prices for milk, cream and butter, there is but little complaint of hard times among the dairy fraternity.

Washington (E. H. Eames). — There is about a one-half crop of Indian corn. The dry weather of the summer shows its effect in curtailing the rowen crop almost entirely. No fall seeding has been done as yet. It is hard to tell what the potato crop will be, for there is considerable blight and rot. There is about a one-half crop of apples, which are very good in quality; pears are about a one-half crop, and there were no peaches. There has been very little damage from early frosts.

Richmond (Timothy B. Salmon). — A small percentage of the corn crop is ripening up, and the crop, as a whole, is below the average. The rowen crop is about up to the usual average, as is fall feed. The usual amount of fall seeding has been done, and it is now in good condition. The yield of potatoes will be below the average, but the quality is good. Prospect for root crops is good, and it is also good for other late market-garden crops. Fruit, yield: apples, average; pears, above the average; peaches, very

few; grapes, average; cranberries, none raised. Fruit, quality: apples, average; pears, average; peaches, average; grapes, average. On August 28, 29 and 30 there were quite heavy frosts, stopping the growth of fodder corn and prematurely ripening the buckwheat. There is an awakened interest in up-to-date methods of orcharding which has resulted in larger yields of better fruit.

Dalton (Wesley B. Barton). — Indian corn is about 90 per cent of a normal crop. The rowen crop is about an average, and fall feed is in good condition. The usual amount of fall seeding has been done. The potato crop is of good quality, and is about 90 per cent of normal in yield. The prospect for root crops is fair, and it is good for other late market-garden crops. The apple crop is about 60 per cent of normal, and the fruit is of good quality; pears are also of good quality, and the crop is about 90 per cent of the average. There has been no damage from early frosts. Taken as a whole, I consider that the season has been a good one.

Windsor (Harry A. Ford). — Indian corn is about a normal crop. The rowen crop is not up to normal, owing to the fact that it was so dry when the first crop was cut. Fall feed is in good condition. Not much fall seeding has been done as yet. There is about a two-thirds crop of potatoes, of very good quality. Root crops, celery and other late market-garden crops promise very well. There has been very little damage at the present time from early frosts. No noticeable increase in interest in better fruit and its production.

Cheshire (L. J. Northup). — Having come forward very rapidly of late, the crop of Indian corn now compares very favorably with a normal crop. Not very much rowen will be cut, the crop not being up to normal. Fall feed is in fairly good condition. About the usual amount of fall seeding has been done, and at present it is in good condition. Potatoes are not up to normal in yield, although the quality of the crop is very good. The prospect for root crops is good, for celery good, and for late market-garden crops generally good. Fruit, yield: apples, 75 per cent; pears, 40 per cent; peaches, none; grapes, very good crop. Frost has appeared every month this year, but has done but very little damage as yet. Pruning is not very much practiced in this vicinity, but there is no doubt that better and larger yields would be secured if spraying and fertilizing were adhered to.

FRANKLIN COUNTY.

Rowe (Henry D. Wright). — The corn crop compares very favorably with a normal one. The rowen crop is not up to the usual average, but fall feed is in good condition. About the usual amount of seeding has been done, and it is now in good condition.

Potatoes are of good quality, but are below normal in yield. Apples are above normal in yield and quality, while pears are a small crop. There has been no damage from early frosts. Renewed interest in apple growing has resulted in larger yields of better crops.

Leyden (Frank R. Foster). — The rowen crop and fall feed are fully up to the usual average. Potatoes are fully up to the average in yield, especially the late varieties; quality of the crop is very good. The prospect for root crops is very good. Fruit, yield: apples, a one-half crop; pears, average; peaches, very few; grapes, abundant. Fruit, quality: apples, fine; pears, fine; grapes, excellent. There has been some damage from early frosts to vines on low ground, otherwise not to any great extent. There is an increased interest and activity in spraying, which has resulted in better fruit, but there is a lack of proper pruning practices.

Northfield (T. R. Callender). — The corn crop is about normal. The rowen crop is very light. Fall feed is in fair condition. The usual amount of fall seeding has been done, and the condition of such fields is above the average. Onions are an average crop, or possibly somewhat above the average. Potatoes are poor in yield, but of good quality. Fruit, yield: apples, average, and of good quality; grapes, average. There has been no damage from early frosts. There is more spraying being done than formerly.

Buckland (Eugene D. Griswold). — The corn crop is from 75 to 80 per cent of normal. The rowen crop is way below normal, and in fact there has been very little cut. There has been less fall seeding than usual, but it is looking very well at present. There have not been potatoes enough dug yet to tell as to the crop. Root crops are about normal. Fruit, yield: apples, normal; pears, 60 to 75 per cent; peaches, very few; grapes, normal. Fruit, quality: apples, extra good; pears, good; peaches, good; grapes, good. No damage from frosts as yet. There has been more interest taken in the care of apple orchards, both in pruning and spraying; the effects are plain to be seen in both quantity and quality of crops.

Montague (A. M. Lyman). — The corn crop will be about 90 per cent of normal; the past month has brought about a wonderful change. The rowen crop is fairly good and on new mowings it is cutting an extra good crop. Fall feed is quite good. The amount of fall seeding done is fully up to the average, much having been done in the corn; at present it is in fine condition. There is about an average onion crop, but the price is low, hardly 50 cents per bushel. Potatoes are not quite up to normal, but late ones are coming on well; the quality of potatoes is very good. The prospect for root crops is fairly good; for celery, extra good; for other late market-garden crops, good, as they are coming along better than usual. Fruit, yield: apples, much above the average; pears,

not a one-half crop; peaches, hardly any; grapes, full crop; cranberries, few. Fruit, quality: apples, fine where sprayed; pears, good; grapes, very good. There has not been much damage from early frosts. Modern methods in orcharding are being adopted, and although the time is yet too short to show noticeable results, spraying shows very marked profit. The early set tobacco is an extra large, fine crop; the late set has come on well.

Ashfield (Albert Howes). — The corn crop is hardly up to the average, although it has improved rapidly since September 1. There is a very small crop of rowen, and fall feed is a little below normal. The usual amount of fall seeding has been done, and it is in good condition. Potatoes are very uneven, but the quality of the crop is generally good. Root crops look well where the seed germinated evenly, giving a good stand; celery also looks well. Fruit, yield: apples, above average and seldom of better quality; pears, late; peaches, small crop; grapes, good crop. There has been no damage from early frost. There has recently been much improvement in the management of orchards, resulting in better yields and better fruit.

Conway (L. T. Hopkins). — The prospect is that corn will not be over 80 per cent of a normal crop. There is but little rowen this fall; the rains have helped the pastures greatly. The usual amount of fall seeding has been done, and it is in fair condition at present. What few onions have been raised here have done well. Potatoes are small and the yield is rather light, the quality in general is below normal. Fruit, yield; apples, 70 per cent; pears, 40 per cent; peaches, none; grapes, 75 per cent. Fruit, quality: apples, 100 per cent; pears, 90 per cent; grapes, 90 per cent. There has been no damage from early frost. There is more interest in apple growing than formerly. In orchards which have received no special care the apples are better than for some years, and where modern methods have been practiced the apples are all about perfect.

Sunderland (George P. Smith). — The Indian corn crop is below normal, and much of it is still immature. The rowen crop on moist, rich land is fair; otherwise the crop is poor. The usual amount of fall seeding has been done, but a rather poor stand has been secured. The onion crop is heavy, somewhat above the average. The potato crop is below normal and of good quality, no rot having been seen. The prospect for root crops, celery and other late market-garden crops is very good. Fruit, yield: apples, light; pears, normal; peaches, none; grapes, normal. Fruit, quality: apples, poor; pears, normal. There have been no early frosts to do damage. Several orchards have been sprayed for the scale.

New Salem (Daniel Ballard). — Corn is not up to a normal crop in this section. Rowen is not up to the usual average, and fall

feed is also below. About the usual amount of fall seeding has been done, and it is in good condition at present. Not many onions are raised for market in this vicinity. Potatoes are below normal as a whole, although there are some good fields; the quality of the crop is excellent. Root crops promise a normal yield, and celery is looking well. Fruit, yield: apples, full average; pears, below average; peaches, scarce; grapes, plenty. Fruit, quality; apples, good; grapes, good. The damage from early frost has been slight, and has been limited to corn and garden crops on low ground. There is an awakened interest in modern methods of orcharding, and some benefit has already been realized.

HAMPSHIRE COUNTY.

Plainfield (C. A. Williams). — Corn is about an average crop and is nearly ready to cut for husking; it has ripened off well, as frosts have held off and given it time to mature. The rowen crop is very light on account of the summer's drought, but fall feed is very good, owing to the late rains. Not much fall seeding has been done, but this is in good condition, as late rains have helped to start it along. Early potatoes are light, late ones about normal in quantity. The root crop is good; very little celery raised; other late market-garden crops in very good condition. Fruit, yield: apples, more than average; pears, fully an average; peaches, few raised; grapes, very few raised; cranberries, not an average crop. Fruit, quality: apples, good; pears, very good; peaches, good; grapes, good; cranberries, rather wormy. There has been no damage from early frost as yet. The interest in the care of orchards has resulted in larger crops and better fruit, and while the fruit may not be quite as large, it is fairer and cleaner, owing to more extensive spraying and general care during the last few years.

Goshen (George L. Barrus). — Corn is good but late, the frost having hurt it on low lands. Rowen will be about a one-half crop, as the rain came too late for best results. Fall feed is in good condition. Fall seeding is in good condition, and the usual amount has been done. Potatoes are about three-quarters of a normal crop, and are of good quality. The prospect for root crops is good, but it is rather poor for other late market-garden crops. Fruit, yield: apples, 75 per cent; pears, 50 per cent; peaches, 50 per cent; grapes, 50 per cent. Fruit, quality: apples, 100 per cent; pears, 100 per cent; peaches, 100 per cent; grapes, 75 per cent. Only on low lands have there been frosts, but these have occurred every month during the summer, injuring corn and potatoes, and more seriously damaging the corn. The aroused interest in modern methods of orcharding is evidenced by the improvement in quantity and quality of the fruit.

Middlefield (J. T. Bryan). — About a two-thirds normal crop of corn is the rule, nearly all of which has been put into the silo. The rowen crop is not up to the usual average, but fall feed is very good. The usual amount of fall seeding has been done, and it is now in excellent condition. About a two-thirds crop of good quality potatoes will be harvested. Prospect for root crops is excellent; for celery and other late market-garden crops good. Fruit, yield: apples, about three-fourths; pears, a full crop; peaches, none; grapes, a one-half crop; cranberries, a one-half crop. Fruit, quality: apples, pears, grapes and cranberries, good. A very little damage has been done by early frosts to garden crops on low lands. Farmers are taking better care of fruit trees, but no orchards are being set.

North Hadley (H. C. Russell). — Corn is very late, but will be a full crop if frosts hold off. The rowen crop is very poor, but fall feed is good. The usual amount of fall seeding has been done, and it is now in good condition. The onion crop is above the average in yield, but is late. Potatoes are much below the average in yield and of poor quality; early potatoes were a failure, and late potatoes will be much below the average. The prospect for root crops and celery is good. All fruits are below the average, with the exception of grapes, which are an excellent crop. Tobacco is all harvested in good condition. There have been no frosts yet to do damage.

Pelham (John W. Knight). — The corn crop is hardly up to normal. Rowen is also below the normal, but fall feed is good. Very little fall seeding has been done at the present time. Potatoes are not up to normal in yield, but the quality of the crop is good. The prospect for root crops is good, and it is very good for other late market-garden crops. Fruit, yield: apples, good; pears, good; peaches, none; grapes, good. Fruit, quality: apples, good; pears, good; grapes, very good. No frosts as yet. There is a great improvement in orchard management, resulting in increased crops of better fruit.

Prescott (W. F. Wendemuth). — Corn is about two weeks late, is about 90 per cent of normal, and ripens very unevenly. Scarcely any rowen will be cut. Fall feed is not up to the average. More fall seeding has been done this year than last, and it is in a fair average condition at the present time. Onions are not grown except for home use. Potatoes were injured by blight and drought, and the crop will be 70 per cent of normal or less; in quality they are hardly up to the average. Cabbages will be a fairly good crop. Very little of the other market-garden crops raised here. Fruit, yield: apples, 80 per cent; pears, 75 per cent; peaches, 70 per cent; grapes, 95 per cent. Fruit, quality: apples, 95 per cent; pears, 90

per cent; peaches, 95 per cent; grapes, 90 per cent. There has been very little damage from early frosts. Spraying is more generally practiced than formerly, and with marked results. One grower who sprayed thoroughly has trees which are breaking down with fruit, while neighbors who did not spray have only light crops of poorer fruit.

Westhampton (Levi Burt). — Indian corn is fully up to the average. Rowen shows a three-fourths crop. Fall feed is good. The usual amount of fall seeding has been done, and it is now looking fine. Potatoes, in yield, are fully up to the normal, and are of fine quality. The prospect for root crops is good. Fruit, yield: apples, about two-thirds; pears, very few; peaches, very few; grapes, good. Fruit, quality: apples, fine; grapes, fine. No damaging frost as yet. Not very much interest is shown in growing fruit aside from two or three instances.

Southampton (C. B. Lyman). — Corn is in very good condition and is now being cut, being well stocked with ears. The hot weather of September, with the accompanying rains, gave the corn a rapid growth. These same rains greatly helped the rowen and feed, which have started finely, but the rowen is still very short, although feed is in fairly good condition. The usual amount of fall seeding has been done, and it is looking well, but there is still quite a bit to be sown. Potatoes are not up to the normal, owing to the drought, but the quality is very good. The prospect is rather poor for root crops, but late turnips are looking well. Fruit, yield: apples, below the average; pears, light; peaches, none; grapes, plenty. Apples are of good quality and grapes fine. Modern methods have been adopted in some orchards, and there was produced the finest fruit I have ever seen; the trees were loaded to their capacity with large fruit, upon which hardly a blemish could be found.

Enfield (D. O. Chickering). — Compared with normal the corn crop is very good. The rowen crop is about up to the average, as is also fall feed. About the usual amount of fall seeding has been done, and it is in good condition. Potatoes are about a normal crop and of good quality. Prospect for root crops and other late market-garden crops is fair. Fruit, yield: apples, average; pears, average; peaches, few; grapes, good. Apples are of good quality. The damage from early frosts has been very slight, mainly to squashes and cucumbers, although in a few places corn was touched slightly. There is an awakened interest in modern methods of orchard care to some extent. An experimental orchard was set out on the farm of C. W. Maynard last year and is doing very well.

HAMPDEN COUNTY.

Blandford (Enos W. Boise). — There is about a 90 per cent corn crop, but it is mostly late and much of it is immature. The rowen crop and fall feed are good, owing to the late wet weather. The usual amount of fall seeding has not been done, but what has been planted is looking well. Potatoes are about 80 per cent of normal in yield, and about 100 per cent in quality. All root crops are making good growth. Fruit, yield: apples, 75 per cent; pears, 50 per cent; grapes, 100 per cent. Fruit, quality: apples, 100 per cent; pears, 100 per cent; grapes, 100 per cent. There have been no frosts on the hills, although low lands have been slightly touched. There seems to be a general awakening as to the care of orchards.

Tolland (Eugene M. Moore). — Corn is about two weeks late. The rowen crop is not up to the average, but fall feed is in fairly good condition. Early potatoes are about a one-half crop, and late potatoes about normal; quality of both good. Apples are about 50 per cent of a normal yield; grapes, normal; cranberries, 40 per cent. No frost damage as yet. There is a general awakening in methods of fruit growing, with the result that more fruit of better quality is secured.

West Springfield (N. T. Smith). — There has been a good growth of stalk, but many pieces of corn are below the average in well-filled ears. The rowen crop is about 50 per cent of the average. Fall feed has not recovered from the effects of the dry weather. But little fall seeding has been done, but this is fully average in condition. The onion crop is fully normal. There is a 50 per cent crop of excellent quality potatoes. Prospect for root crops is very good; celery is growing well; other late market-garden crops are above normal. Fruit, yield: apples, 25 per cent; pears, 25 per cent; peaches, none; grapes, 100 per cent. Fruit, quality: apples, below normal; pears, below normal; grapes, above normal. There has been no damage from early frosts. In a very few cases there is an increased interest in better methods, but a large majority of apple trees in this town are in very bad shape.

Ludlow (Charles B. Bennett). — Indian corn is a 90 per cent crop. The rowen crop is not over one-half of the usual average; likewise, fall feed. No fall seeding has been done. Potato crop is 75 per cent of normal in yield, and 100 per cent in quality. The prospect for root crops and celery is good; for other late market-garden crops, fair. Fruit, yield; apples, 50 per cent; grapes, 100 per cent. Fruit, quality: apples, 75 per cent; grapes, 100 per cent; no pears or peaches. No frosts as yet. No seeding has been done, owing to the fact that all crops are late. Help is very scarce and poor.

East Longmeadow (John L. Davis). — Indian corn is about two-thirds of a normal crop. Rowen is below the average, there being very little to be cut; late rains have helped the fall feed somewhat. Very little fall seeding has been done, but this is doing well. Potatoes are about two-thirds of a normal crop, and are of good quality. The root crops are very late, but will do well if they have time before freezing weather; celery and other late market-garden crops are looking well. Fruit, yield: apples, average; pears, very few; peaches, failure; grapes, a two-thirds crop. Fruit, quality: apples, pears and grapes, good. Slight damage has been done to corn, beans and tomato by the early frosts. Farmers are talking about adopting up-to-date methods in the apple orchard, but not much has been done.

Monson (F. D. Rogers). — The corn crop is about 75 per cent of normal. The rowen crop is up to the usual average, and fall feed is in good condition. Rather less fall seeding has been done than usual. Few potatoes have been dug, and some pieces are not ripe yet; quality is good. Fruit, yield: apples, 80 per cent; pears, 25 per cent; peaches, practically none; grapes, 100 per cent. Fruit, quality: apples, 100 per cent; pears, 100 per cent; grapes, 100 per cent. Very little damage has been done by early frosts. To a limited extent, there is an increased interest in progressive methods of fruit growing; the majority, however, do nothing but pick the fruit.

Brimfield (F. M. Lawrence). — There is very nearly a full crop of Indian corn. The rowen crop is not up to the usual average; only a small amount cut. Fall feed is in fair condition. Not much fall seeding has been done at the present time. Potatoes are about 75 per cent of a normal crop, and are of fair quality. Turnips are looking well. Fruit, yield: apples, 50 per cent; pears, 25 per cent; peaches, few on the hills; grapes, 80 per cent; cranberries, few. On August 29 frosts occurred which injured corn, beans and squashes on low lands to a limited extent. Only a very few have adopted modern methods of pruning and spraying apple orchards, but these orchards show the results in better fruit. Nearly all the silos have been filled with a good crop of corn in excellent condition, as there has not been any frost to hurt it this year; some are putting millet, also, into the silo.

WORCESTER COUNTY.

Royalston (C. A. Stimson). — Indian corn is a normal crop, but frosts must hold off a week for it to mature. The rowen crop is not up to the usual average. Fall feed is in fair condition. The usual amount of fall seeding has not been done. Potatoes are a 75 per cent crop; quality, good. Prospect for root crops is normal.

Fruit, yield: apples, 80 per cent; pears, 35 per cent; peaches, none; grapes, 95 per cent; cranberries, none. Fruit, quality: apples, 85 per cent; pears, 80 per cent; grapes, 100 per cent. Frosts have occurred every month so far, and have killed corn and beans in some parts of the town. Interest in modern methods of pruning and general care of the apple orchard has been awakened, and spraying is being practiced, with good results.

Fitchburg (Dr. Jabez Fisher). — Corn is fully an average crop. The rowen crop is not quite up to the usual average. Fall feed is in good condition. Potatoes compare with the normal, in yield, 90 per cent; in quality, extra. Prospect for root crops is promising. Fruit, yield: apples, 75 per cent; pears, 60 per cent; grapes, 100 per cent. Fruit, quality: apples, pears and grapes, extra. No damage from frosts as yet. An increased interest in modern orcharding is very evident among many, but not all. With the exception of the lack of rain through June and a part of July, the season has been almost ideal. Fungous troubles were mostly absent, and there have been generally good crops of fine quality.

Petersham (B. W. Spooner). — Indian corn is about the same as a year ago, but is two weeks later. No rowen cut in this vicinity. Fall feed is dried up. It is too dry to plow and seed. Only a few onions are raised, in gardens. Some fields of potatoes are yielding fairly well, others light; quality is good, with no rot. Fruit, yield: apples, normal; pears, few; peaches, none; grapes, few; cranberries, none. Fruit, quality: apples, good. Damage from early frosts has occurred only on low lands, and only to corn. Our agricultural high school members have taken some interest in pruning and spraying fruit trees.

Westminster (Frank W. Derby). — There is a fair crop of Indian corn. The rowen crop is not up to the usual average, nor is fall feed. About the usual amount of fall seeding has been done, and it is in fair condition. Potatoes compare well with the normal in yield and quality. Prospect for root crops is good. Fruit, yield: apples, about average; pears, below average; grapes, average; cranberries, average. Fruit, quality: apples, good. Frosts occurred late in August and cut down squash vines to some extent. Apple orchards are being sprayed more than in years past.

Harvard (John S. Preston). — Crop of Indian corn is below normal. The rowen crop and fall feed are very good indeed. The usual amount of fall seeding has been done, and the condition is good. Very few onions raised. Potatoes show a good crop of large-sized tubers, but not many in the hill; quality, good. Prospect for root crops is good; very little celery raised; other late market-garden crops are in very good condition. Fruit, yield: apples, more than the average; pears, light; peaches, very light. Fruit, quality: apples, good; pears, good; peaches, good. No damage from

early frosts to any extent. Farmers are taking more care of their orchards, both in pruning and spraying, as well as in cultivation.

Dana (Lyman Randall). — Indian corn is about 70 per cent of a normal crop. Rowen and fall feed are not up to the usual average. There has not been much seeding done. No onions raised here to any amount. Some fields of potatoes are fully up to the normal in yield, others not 75 per cent; the quality is fair. Root crops are not up to the average; not much celery raised; squash and cabbage are about a one-half crop. Fruit, yield: apples, one-half an average crop; pears, one-half; peaches, none; grapes, 60 per cent; cranberries, one-third. Fruit, quality: apples, rather poor; pears, fair; grapes, fair; cranberries, good. Damage was done by frosts on August 31 and September 1. In sections, frost destroyed one-third of the crops of corn, beans and potatoes. There is some interest in modern methods of apple growing but not much has been done as yet.

Barre (John L. Smith). — Corn is 80 per cent of a normal crop. Very little rowen cut this year; there is not much fall feed. Fall seeding has been done in the usual amount; it is growing slowly and needs rain. Potatoes are good as to yield and quality. Fruit, yield: apples, average crop. Frosts have damaged the outside leaves of corn in the valleys.

Bolton (H. F. Haynes). — The crop of Indian corn is about an average. Rowen is up to the usual average. Fall feed is in good condition. The usual amount of fall seeding has been done. Not many onions raised. Potatoes are a light crop, of good quality. Few root crops raised; no celery grown for market; other late market-garden crops offer good prospects. Fruit, yield: apples, light; grapes, good. Fruit, quality: apples, good; pears, good; peaches, fair; grapes, good; cranberries, few raised. No damage from frosts. People are spraying their apple orchards better than they used to.

New Braintree (Chas. D. Sage). — Some fields of corn are very good, but, as a whole, the crop will not average more than 75 or 80 per cent of a normal. Very little rowen will be cut, — not 10 per cent of a full crop. Very little fall seeding has been done, but it is looking well. Potatoes are 75 per cent of a normal yield, and fair in quality. Very few root crops and celery grown, and almost no late garden crops grown for market. Fruit, yield: apples, 40 per cent; pears, 20 per cent; peaches, none; grapes, 80 per cent; cranberries, 40 per cent. Fruit, quality: apples, 75 per cent; pears, 75 per cent; grapes, 80 per cent; cranberries, 75 per cent. But very little frost in low places and very little damage. There is very little interest taken in modern apple growing; the farmers simply gather the fruit. Feed in pastures is dry, and even in mowings it is dry and short. Cows are not doing well, but there is a loud

call for milk from the dealers, who say it is very short. The season has not been a very satisfactory one.

Northborough (J. K. Mills). — The crop of Indian corn is 10 per cent above the normal. There will be but very little rowen. Fall feed is quite good. There is very little fall seeding done as yet, but the present condition is good. There will be a full normal crop of onions. The crop of potatoes is not up to normal in yield or quality. The prospect for root crops, celery and other late market-garden crops is good. Fruit, yield: apples, 75 per cent; grapes, 50 per cent. Fruit, quality: pears, 10 per cent. There has been no damage from early frosts.

West Brookfield (Myron A. Richardson). — The Indian corn crop is up to normal, but some fields are just beginning to glaze over. The rowen crop has, in nearly every instance, been a failure. There is some fall feed, but it is not up to normal. The usual amount of fall seeding has not been done as yet, but what has been done is looking fine. Early potatoes were a failure, but late ones will be up to normal and quality is fine. The root crops in most places will be a failure. Fruit, yield: apples, normal; pears, hardly any; peaches, none; grapes, abundant; cranberries, none. Fruit, quality: apples, fair and good; grapes, smaller than normal. Considerable damage was done to corn in the lowlands on September 5, but none on the hill fields. There is no awakened interest in modern apple orcharding. The early drought injured early potatoes and early root crops, and caused many apples to fall, but the late rains have helped out the late crop of potatoes and fall feed.

North Brookfield (John H. Lane). — The corn crop is three weeks late, but there is a large growth of stover. The rowen crop and fall feed are not up to the usual average. More fall seeding than usual has been done, and it is in good condition. There are few potatoes to the hill, but large in size and extra in quality. Prospect for root crops is good. Fruit, yield: apples, 20 per cent; pears, 10 per cent; grapes, 50 per cent; cranberries, none. Fruit, quality: apples, poor; pears, fair; grapes, fair. Damage by early frosts is too small to estimate. Do not see much awakened interest in modern methods of raising apples. We have much to learn about spraying to make it safe and paying. Where sprayed, trees show larger yields of better fruit.

Worcester (W. R. Kinney). — A fair crop of Indian corn is maturing rapidly. The rowen crop is not up to the usual average; fall feed is. Fall seeding is looking nicely, and the usual amount has been done. Onions are a fair crop, but late. Potatoes promise a good crop in yield and quality, so far as dug. Root crops are growing fast; celery is late, but growing. Squash is giving a light crop. The weather has been unfavorable for the cauliflower crop by forcing it along so early as to produce a very dull market.

Cucumbers have given a light crop, but cantaloupes have given better returns than usual. Prospects for late market-garden crops as a whole are good. Fruit, yield: apples, good; pears, poor; peaches, light; grapes, good. Fruit, quality: apples, fair; pears, poor; grapes good.

Southborough (Edward T. Collins). — Indian corn is 80 per cent of a normal crop. Rowen and fall feed are 90 per cent of normal crops. Very little fall seeding has been done as compared with three or four years ago; condition is fair. Few onions raised. There is a good crop of potatoes, above the average in quality. Fruit, yield: apples, 50 per cent; pears, very few; peaches, none; grapes, 100 per cent. Fruit, quality: apples, good where cared for. No frosts up to time of making returns. There are not more than five orchards in town which are properly cared for. This town was once a great apple-growing community, but I think there will be few apple trees of any value within three or four years.

Leicester (Henry H. Kingsbury). — Corn was late in maturing, finally making an average crop of grain and stover. Rowen crop shows a very good yield although shortened perhaps by the June drought. Fall feed is in excellent condition. The weather has favored fall seeding; rather more than usual has been done and the condition is fine. Potatoes are a good crop, fully up to the average in quality. Root crops are apparently doing well, and the weather just suits celery. Fruit, yield: apples, 100 per cent; pears, 100 per cent; peaches, none; grapes, 100 per cent; cranberries, none. Fruit, quality: apples, pears and grapes, 100 per cent; peaches and cranberries, none. No damage from frost. There is emphatically an awakened interest in modern apple growing which has resulted very noticeably in larger yields of better fruit.

Southbridge (E. T. Torrey). — The corn crop is rather better than normal. The rowen crop is fully up to the usual average, and fall feed is very good. Fall seeding is in very good condition, with the usual amount done. Potatoes are better in yield, and good in quality. Prospect is favorable for root crops; all other late market-garden crops promise well. Fruit, yield: apples, better; pears, rather below; peaches, good; grapes, average. Fruit, quality: apples, quite as good; peaches, as usual. Frost damage has been very slight. Quite a number of growers are talking modern methods of orcharding, but only one has done much, and his yield was very much better in quality.

Uxbridge (Everett D. Robinson). — Indian corn is a little below normal. Rowen is up to the usual average, but not so with fall feed. The usual amount of fall seeding has been done, and the crop is in very good condition. Potatoes are good in yield and quality. Prospect for root crops is good. Fruit, yield: apples, short; pears, good; peaches, far below average; grapes, good.

Fruit, quality: apples, pears, peaches and grapes, good. Frosts occurred on August 28 and 29, damaging beans, squashes, pumpkins, and, in some cases, corn. The damage to corn on very low lands was considerable. There has been much spraying done and the quality of fruit is excellent. Where trees have not been sprayed the fruit is inferior in quality and size.

MIDDLESEX COUNTY.

Dunstable (A. J. Gilson). — Indian corn has done well and is a good normal crop. The rowen crop is below the average; fall feed is good. A small amount of fall seeding has been done. Onions are raised principally for home use. Potatoes are a much lighter crop than was expected, and medium in quality. As a whole, root crops have done fairly well; very little celery or other late market-garden crops raised. Fruit, yield: apples, not half the average; pears, none; peaches, none; grapes, plenty; cranberries, medium. Fruit, quality: apples and grapes, good; cranberries, some frost-bitten. Frost occurred on August 30, doing very little damage, and this to cranberries principally. Modern methods of pruning and caring for orchards have not reached this vicinity to any great extent.

Westford (J. W. Fletcher). — The Indian corn crop was never better. The rowen crop is better than for the last three years. The usual amount of fall seeding has been done and its present condition is good. Potatoes are above the average in yield. Fruit, yield: apples, a two-thirds crop; pears and peaches, none. No frost damage. The awakened interest in modern methods of pruning and the general care of the apple orchard has been made manifest in larger yields of better fruit.

Maynard (L. H. Maynard). — Indian corn is above normal in quality, but much of it is very late and may get frosted. The rowen crop is up to the usual average in general, although some fields are light. Fall feed in mowings is good; pastures are short. About an average amount of fall seeding has been done; condition good. Onions are a little short in this section. Potatoes are about an average in yield and quality. Prospect for root crops, celery and other late market-garden crops is good. Fruit, yield: apples, 75 per cent; pears, none; peaches, short; grapes, 100 per cent; cranberries, average. Fruit, quality: apples, many show scale; pears, none; peaches, short; grapes, 100 per cent; cranberries, average. Frost on August 31 did very light damage to squash, tomatoes and potatoes. There has been much more interest shown in pruning and spraying within the last few years, and all who are doing it agree that the more spraying and pruning are done, the more profit from the orchards.

Lexington (Howard M. Munroe). — Indian corn is about an average crop, but much is late and may not mature. Rowen is better than the average. Fall feed is very good. More than the usual amount of fall seeding will be done, and that which is up looks well. There is an average crop of onions. Potatoes promise more than an average crop, of very fine quality. Root crops promise to show a full yield. Celery looks remarkably well. Peppers are raised in large quantities in this neighborhood for the Boston market; the crop this year is the smallest for several years, due probably to the cold weather in August. All late market-garden crops look very well. Fruit, yield: apples, 75 per cent; pears, 25 per cent; peaches, 35 per cent; grapes, 100 per cent. Fruit, quality: apples, pears, peaches and grapes, 100 per cent. No damage by frost yet. Orchards of all kinds are receiving much better care than formerly, and the owners are well repaid by more and better fruit.

Winchester (S. S. Symmes). — No Indian corn raised. Rowen is up to the usual average, and fall feed is in good shape. Fall seeding has been done to the usual amount, but most of it is just up. The onion crop was good, but is nearly all sold out. There are more small potatoes than usual although the quality is good. Beets are a good crop; turnips are small; celery is good. Cauliflowers are all coming in a rush. Cold weather in July prevented squashes from growing well and there will be a very small crop. Fruit, yield: apples, 75 per cent; pears, 50 per cent; peaches, none; grapes, 90 per cent; cranberries, none. Fruit, quality: apples, good; pears, fine; grapes, fine. No frost damage. The season has been rather unusual, — dry in June, with frost on the 8th.

Stoneham (J. E. Wiley). — Rowen and fall feed are up to the usual average. The usual amount of fall seeding has been done, and its present condition is good. Potato crop is good in yield and quality. There is a fair prospect for root crops, and good prospect for celery and other late market-garden crops. Fruit, yield: apples, good; pears, light; peaches, light; grapes, heavy. Fruit, quality: apples, good; pears, fair; peaches, good; grapes, fine. No damage from early frost. No noticeable interest in modern orcharding.

Marlborough (E. D. Howe). — The crop of Indian corn is 90 per cent of a normal. Fall feed is up to the usual average; the rowen crop is not. Fall seeding is starting well, and the usual amount has been done. Potatoes, as compared with a normal crop, are 95 per cent in yield and 100 per cent in quality. The prospect for root crops is 100 per cent; for other late market-garden crops, 95 per cent. Fruit, yield: apples, 60 per cent; pears, 50 per cent; peaches, 25 per cent; grapes, 90 per cent; cranberries, 100 per cent. Fruit, quality: apples, 90 per cent; pears, 90 per cent;

peaches, grapes and cranberries, 100 per cent. No frost damage. Interest in modern apple growing is just beginning.

South Sudbury (Edgar W. Goodnow). — Corn is above the average. A good crop of rowen is being harvested; fall feed is looking well. An unusual amount of fall seeding has been done, and the crop is looking well. Potatoes are above normal in yield and quality. The prospect for root crops is good; all late market-garden crops are looking well. Fruit, yield: apples, below average; pears, average; peaches, none; grapes, average; cranberries, below normal. Fruit, quality: apples and pears, good; peaches, poor. No damage has been done by early frosts. Much interest has been shown in pruning and the general care of apple orchards, and it is manifest in larger yields of better fruit.

Weston (Edward P. Ripley). — The crop of corn is 80 per cent of a normal. Rowen is up to the usual average. Fall feed is fair. As much fall seeding has been done as usual, but it needs rain. Potatoes are good in quality, and in yield 75 per cent of a normal crop. A good prospect is offered for root crops. Fruit, yield: late apples, heavy; pears, none; grapes, good. Fruit, quality: apples and grapes, good. Early frosts have done no damage. Orcharding is receiving much attention, with the result of more fruit of much better quality.

ESSEX COUNTY.

Salisbury (Wesley Pettengill). — The corn crop will be large, provided frosts hold off a little longer to give it time to ripen. Rowen is more than an average crop, largest for years. Fall feed is good, better than usual. Not much fall seeding has been done. Not many onions raised in the immediate vicinity. Potatoes show a large yield, of good quality. All late market-garden crops are looking well. Fruit, yield: apples, a good average; pears, light; peaches, light; grapes, large; cranberries, fair. Fruit, quality: apples, good, very large; pears, average for a light crop; peaches, fair for a light crop; grapes, good. No frosts. We take better care of our orchards than formerly, especially in the matter of spraying. Everybody sprays, and the result is that we get more and better fruit. The apple crop is a good fair one and quite equal to last year.

Merrimac (S. Bixby Sargent). — Corn is a good crop, but late. Rowen and fall feed are up to the usual average. The usual amount of fall seeding has been done, and its condition is very good. Potatoes show an average yield, of very good quality. Root crops and other late market-garden crops offer a good prospect. Fruit, yield: apples, a one-half crop; pears, light; peaches, very few; grapes, heavy. Fruit, quality: apples and grapes, good. No

frost damage. More spraying is done every year, which results in better fruit.

Haverhill (Milton A. Corliss). — Indian corn promises to be more than a normal crop. The rowen crop is more than an average. Fall feed is average. Onions show an average yield. Potatoes are more than a normal crop, and of excellent quality. The prospect for root crops and for celery is good; the late cabbage crop is not up to the average. Fruit, yield: apples, normal; pears, scarce; peaches, fair; grapes, normal. Fruit, quality: apples, pears, peaches and grapes, good. No frosts have been reported as yet. There has been a wide awakening in caring for orchards, which has been manifested in an increased yield. Not many silos have been filled as yet, but many farmers are going to begin this week.

Methuen (Frederick A. Russell). — The Indian corn crop is very light and immature. The rowen crop in some sections is up to the usual average; in others, not up to average, owing to rust. Fall feed is in fairly good condition. Early fall seeding is looking well, but the usual amount has not been done. Onion crop is very good, both in quantity and quality. In yield, potatoes are very good; in quality, excellent. A very favorable prospect is offered for root crops; celery was never better; other late market-garden crops are very good. Fruit, yield: apples, good; pears and peaches, very few; not many grapes raised; cranberries, none. Fruit, quality: apples and pears, good. There has been no frost. Apple orchards are receiving more care than formerly. The clipping, or heading in, of the trees, in removing the nests of the brown-tail moths, seems to be a benefit to the trees, and systematic spraying tends to increase the quantity and improve the quality of the fruit.

Groveland (A. S. Longfellow). — Corn is 90 per cent of a normal crop. Rowen is less than the usual yield. Fall feed is very good. Less than the usual amount of fall seeding has been done, but its present condition is very good. Onions are a good crop, but green. Potatoes are good in yield and quality. Prospect for root crops is very good; for celery, good, as well as for other late market-garden crops. Fruit, yield: apples, 75 per cent; pears, 25 per cent; peaches, 25 per cent. No frost damage to date. There is an awakened interest in better care of the apple orchard.

Rowley (D. H. O'Brien). — The crop of corn compares favorably with a normal. The rowen is 60 per cent of an average crop, and fall feed is up to the usual average. Fall seeding has been done to the usual amount, and its condition is good. The onion crop is about the average. Potatoes show a good yield, of good quality. A fair prospect is offered for root crops; a good prospect for other late market-garden crops. Fruit, yield: apples and grapes, above the average. Fruit, quality: apples, extra good; pears, below; grapes, good; cranberries, below. There has been very little dam-

age from frosts. Where orchards were well cared for there is an excessive crop; neglected orchards have no apples.

Topsfield (B. P. Pike). — Indian corn is an average crop, but late. Rowen is not as good as last year, but fair. Fall feed is good. Fall seeding is just coming up, the usual amount having been sown. Potatoes show a full average yield, with quality good. Prospect for root crops and other late market-garden crops good. Fruit, yield: apples, 50 per cent; pears, 25 per cent; peaches, 10 per cent; grapes, 100 per cent; cranberries, 100 per cent. Fruit, quality: apples, pears, peaches, grapes and cranberries, 100 per cent. No early frosts. There is an awakened interest in modern methods of pruning and general care of the apple orchard. This interest has been made manifest in larger yields of better fruit.

Hamilton (George R. Dodge). — The Indian corn crop is about 90 per cent of normal. Rowen and fall feed are not up to the usual average. The usual amount of fall seeding has not been done, and the condition of the fields seeded is backward. Onions are not raised commercially. Potatoes are fully up to normal in yield, and, so far as ascertained, the quality is good. The prospect for turnips, beets, carrots and parsnips is good. Cabbage and squash promise well. Fruit, yield: apples, 60 per cent; pears, 40 per cent; peaches, 25 per cent; grapes, 80 per cent. Fruit, quality: apples and pears, 80 per cent; peaches and grapes, 90 per cent. No damage from frosts worth mentioning. Much interest is being shown in apple orchards and more thorough pruning and spraying are being done, resulting in larger yields of more perfect fruit.

NORFOLK COUNTY.

Cohasset (Ellery C. Bates). — The crop of Indian corn is a normal one. The rowen crop is up to or above the usual average. Fall feed is good. The usual amount of fall seeding has been done, and the fields are in good condition. The onion crop is normal. Potatoes are normal both in yield and in quality. Prospect for root crops, celery and other late market-garden crops is good. Fruit, yield: apples, small; pears and peaches, poorer; grapes, average; cranberries, good. Fruit, quality: pears and peaches, poor; grapes, average; cranberries, good. No damage from frosts. Greater interest is being manifested in modern apple raising.

Millis (E. F. Richardson). — The corn crop is about an average one. Rowen and fall feed are up to average. More than the average amount of fall seeding has been done, and the crops are in excellent condition. In yield and quality, potatoes are fair. Prospect for root crops, celery and other late market-garden crops is good. Fruit, yield: apples, 95 per cent; pears, 40 per cent; peaches, none; grapes, 90 per cent; cranberries, 20 per cent. Fruit,

quality: apples, 100 per cent; pears, 90 per cent; grapes, 90 per cent; cranberries, 100 per cent. Very slight damage from frost occurred on August 28, injuring Hungarian and millet a very little. An awakened interest in better methods in orcharding has been made manifest in more and better fruit.

Franklin (C. M. Allen). — Corn is 90 per cent of a normal crop. The rowen crop is better than usual; fall feed is good. Fall seeding has been done to the usual amount, and its present condition is fine. Onions are a normal crop. Potatoes show a good yield, but are off 10 per cent in quality. Prospect for root crops is good; for other late market-garden crops, up to and above normal. Fruit, yield: apples, 80 per cent; grapes, 100 per cent. Fruit, quality: apples, 90 per cent; pears, 20 per cent; grapes, 100 per cent. No frost damage. To a small extent there has been an awakened interest in apple orcharding according to modern practices.

Avon (S. Frank Oliver). — More corn has been planted this year, and its condition is the best for several years. Rowen is better than usual. Fall feed is excellent. Very little fall seeding has been done as yet. Onions raised only for table use. Potatoes are extra good, both in quantity and quality. Root crops and other late market-garden crops offer a good prospect. Very little celery raised. Fruit, yield: apples, less than usual; pears, good; peaches, none; grapes, good; cranberries, none. Fruit, quality: apples, fair; pears and grapes, good. No frost damage. More care is being given to the trees, but most orchards are very old and will never come up to previous yields. New trees have not been planted very freely, but with the new methods of care being introduced there are sure to be more trees set each year.

Foxborough (William E. Perkins). — The corn crop is a little better than the average. Fall feed and rowen are not up to the usual condition. The usual amount of fall seeding has been done, and it is in good condition. Potatoes are better than normal in yield and of good quality. A fair prospect is offered for root crops. Fruit, yield: apples, above average; grapes, normal. Fruit, quality: apples, better; cranberries, fair. Very little damage was done by frosts on September 17 and 23. The adoption of modern methods of pruning and caring for apple trees has been made manifest in larger yields of finer fruit. Light rains have kept the surface of the ground moist, but many springs, brooks and wells are now dry. Many are cutting the rowen crop, which is far below normal. Taken as a whole, crops have made a better average than was expected earlier in the season.

BRISTOL COUNTY.

Easton (William N. Howard). — Indian corn is an average crop. Rowen is up to the usual average. Fall feed is in good condition. The usual amount of fall seeding has been done, and its present condition is good. Few onions are grown in this vicinity. Potatoes are above normal in yield, and in quality, as a rule, are excellent. Prospect for root crops is above normal; for other late garden crops, excellent. Fruit, yield: apples, a little below the average; pears, grapes and cranberries, average. Fruit, quality: apples, pears, grapes and cranberries, good. A very little damage was done to cucumbers and cranberries by frost. Much interest is being shown in better methods in the care of the apple orchard, with better fruit as a result.

Mansfield (E. Jasper Fisher). — Indian corn is about a normal crop. Rowen and fall feed are not up to the average. The usual amount of fall seeding has been done, and it is in good condition. Very few onions raised. Potatoes average a fair crop; the quality is very good. Prospect is good for root crops, and likewise for other late market-garden crops. Fruit, yield: apples, 65 per cent; pears, 40 per cent; grapes, 60 per cent; cranberries, 30 per cent. Fruit, quality: apples, fine; grapes, good. There has been frost but little damage to crops. There is quite an interest at the present time in modern methods of pruning and caring for apple trees.

Attleborough (Isaac Alger). — The crop of Indian corn is about normal. Fall feed and rowen are up to the usual average. The usual amount of fall seeding has been done, and it is in good condition. The potato crop is about average in yield and excellent in quality. All the late market-garden crops are in good condition. Fruit, yield: apples, small; grapes, good; cranberries, good. Fruit, quality: pears, poor. No damage from frost. There is not much interest in apples in this section.

Dighton (Howard C. Briggs). — The corn crop is below the normal. Rowen is a one-half crop. The usual amount of fall seeding has been done, and its condition is average. Potatoes are a one-half crop of very fine tubers. Prospect for root crops is below the average; for celery and other late garden crops, average. Our chief crops, tomatoes and strawberries, showed an average yield. Fruit, yield: apples, 50 per cent; pears, 100 per cent; peaches, good; grapes, 100 per cent; cranberries, 75 per cent. Fruit, quality: apples, poor; pears, 100 per cent; peaches, 10 per cent; grapes, good; cranberries, 75 per cent. There have been no frosts. Modern methods of pruning and the general care of the apple orchard have been given more attention, and larger yields of better fruit are the results.

Acushnet (M. S. Douglass). — Indian corn is a normal crop. Rowen is up to the average, and fall feed is in good shape. Not much fall seeding has been done, but its present condition is good. Very few onions raised here. In yield, potatoes are not up to normal; in quality, good. Root crops offer a good prospect, as do other garden crops. Fruit, yield: apples, fair; pears, fair; peaches and grapes, scarce; cranberries, good. Fruit, quality: apples, fair; peaches, fair; grapes, good. No frost damage. An awakened interest is shown in better methods of apple growing, and this has been made manifest in better and more fruit. There has been more Indian corn raised here for two years past, and most of it goes to the silo.

PLYMOUTH COUNTY.

Campello (Davis Copeland). — About an average crop of Indian corn will be harvested. The rowen crop is about 90 per cent of the usual average. Fall feed is rather short. The usual amount of fall seeding has been done, and its present condition is fairly good. Not many onions raised. Potatoes are good in yield as well as in quality. The prospect for root crops is quite good; celery, good; for other late market-garden crops, fairly good. Fruit, yield: apples, about an average; pears, 20 per cent; peaches, not many raised; grapes and cranberries, good. No frosts. A slight awakening of interest in modern orcharding is showing good results.

Bridgewater (R. Cass). — Corn is not more than an average crop, with some pieces not ready to cut. Very little rowen has been cut, and the crop is much below the average. Fall feed is above the usual quantity. Fall seeding is below an average in amount done; it is too early to report upon condition. Early potatoes were below the average in yield; late potatoes are a good crop; quality is good. Root crops are growing fast, with prospect of good yields. Late cabbage will need a favorable October in which to develop, that it may be called a good crop. Fruit, yield: apples, below; pears, small crop; peaches, light; grapes, good; cranberries, very good. Fruit, quality: apples, below normal; pears, good; peaches, good; grapes, very good; cranberries, fair. No frost damage. Orchards in general are in a neglected condition.

Halifax (Mrs. George W. Haywood). — The crop of Indian corn is very good, — better than common. Rowen is not up to the average; fall feed is. The usual amount of fall seeding has been done, and its present condition is very good. The onion crop is better than the average. There is a large crop of potatoes, of good quality. Turnips and beets are good crops. Fruit, yield: apples, none to speak of; cranberries, fair. Fruit, quality: grapes and cranberries, good. Some frost damaged corn slightly. There is an increased interest in modern apple growing.

Carver (J. A. Vaughan). — There is a good crop of Indian corn. Rowen is not up to the usual average, nor is fall feed very good. The usual amount of fall seeding has been done, and its present condition is good. Potatoes are good both in quality and yield. Apples are an average crop. We are in the midst of the cranberry harvest; a little better than an average crop is expected. No damage from frosts.

Lakeville (Nathaniel G. Staples). — Indian corn compares favorably with a normal crop. The crop of rowen is up to the usual average; fall feed is in good condition. Fall seeding has been done to the usual amount and it is in good condition. The potato crop shows a good yield, of good quality. Prospect for root crops is favorable; celery is a good crop. Fruit, yield: apples, few; pears, fair; peaches, small; grapes, good; cranberries, good. Fruit, quality: pears, fair; apples, peaches, grapes and cranberries, good. No frost damage to speak of. An enlivened interest in modern orcharding has resulted in larger yields of better fruit. I never saw so much smut on corn as there is this year; not only on the ear but on the joint of the stalk.

Rochester (George H. Randall). — Corn is 75 per cent of a normal crop, or more, — much better than early conditions indicated. On low, rich meadows rowen is up to the usual average, but on others less. Fall feed has been up to average and is yet very good. About the usual amount of fall seeding has been done, and its condition is very good. Onions are better than for several years in quality, but with not so large an acreage. Late potatoes are a full average crop; early, a very small crop. In quality, potatoes are very good, with no rot reported. Prospect for root crops is generally better than an average; very little celery grown here; other late market-garden crops promising. Fruit, yield: apples, 75 per cent; pears, 50 per cent; peaches, 50 per cent; grapes, 75 per cent; cranberries, 100 per cent. Fruit, quality: apples, good; pears, fair; peaches, excellent; grapes, average; cranberries, fair in size, late in ripening. Some light frosts have occurred, with no damage to crops, however. With a few there has been an awakened interest in modern apple raising, and with good results.

Mattapoisett (E. C. Stetson). — Indian corn is almost an average crop. Fall feed is up to the average; rowen about an average. The onion crop is rather better than normal. Potatoes are better in yield and good in quality. Good prospects are offered for root crops, celery and other late market-garden crops. Fruit, yield: apples, about average; pears, not very good; peaches, good; grapes, not many; cranberries, average. Fruit, quality: apples and pears, average; peaches, good; grapes, average; cranberries, good. No frost damage. There is perhaps a little interest in modern methods in caring for apple trees.

BARNSTABLE COUNTY.

West Falmouth (D. R. Wicks). — Corn is fully up to a normal in stalk, and eared out well, but is late, and the cool nights do not allow the filling of the kernels. The rains have made the rowen crop fully up to the average, and fall feed is in good condition. The usual amount of fall seeding has been done, and the fields are in good shape. Not many onions are grown here now; in former years thousands of bushels were produced. The yield of late potatoes is about 75 per cent of a normal; the quality is very good. Root crops and other late garden crops are in good condition. Fruit, yield: apples, 60 per cent; pears, 75 per cent; peaches, 40 per cent; grapes, 100 per cent; cranberries, 50 per cent. Fruit, quality: apples, 20 per cent (not sprayed); pears, a failure; peaches and grapes, 100 per cent; cranberries, 50 per cent. No damaging frosts as yet.

Mashpee (W. F. Hammond). — The crop of Indian corn is above the average. Rowen is about an average crop. Fall feed is above the average. The usual amount of fall seeding has been done, and the crops are looking well. The onion crop is an average one. The potato crop is below the average, both in yield and in quality. Fruit, yield: apples, pears, grapes and cranberries, a one-half crop; peaches, a three-fourths crop. Fruit, quality: apples, below the average; pears, about the average; grapes, not very good; cranberries, in good condition. There has not been any frost. There has been a general improvement in the care of orchards.

West Barnstable (John Bursley). — Indian corn is very late and only three-fourths of a normal crop. Rowen is hardly up to the usual average. The condition of fall feed is fair. Although sown late, to the usual amount, most fall seeding is starting. Early planted potatoes show a yield of 90 per cent of a normal; the quality is good. Cape turnips are looking well. Fruit, yield: apples, 85 per cent of normal; pears, 90 per cent; peaches, 50 per cent; grapes, 100 per cent; cranberries, 75 per cent. Fruit, quality: apples, where sprayed, look well; cranberries, 100 per cent. No damage from frosts up to evening of September 22. A few orchards are cared for, and these produce better fruit. Spring frosts, flowing and insects seem to have all made inroads, causing light crops in many instances. Fully three-fourths of the cranberries are secured, free from frosts.

Dennis (Joshua Crowell). — Corn compares favorably with a normal crop. Fall feed and rowen are up to the usual average. Fall seeding is in good condition. The onion crop is about an average. Potatoes are perhaps a little below normal in yield, with a crop of good quality. Root crops are average. Fruit, yield:

apples, above the average; pears, below; peaches and cranberries, average. Fruit, quality: apples, fair; cranberries, as good as average. No damage from early frosts. To some extent there has been an awakened interest in modern methods of pruning and the general care of the apple orchard which has resulted in more and better fruit.

North Brewster (Thos. D. Sears). — The Indian corn crop will be about normal. The rowen crop is very good; also fall feed. The usual amount of fall seeding has been done, and its present condition is good. The onion crop is above the average. There is a good yield of potatoes, and the quality is good. The prospect for root crops is good, as also for celery and other late garden crops. Fruit, yield: apples, pears, peaches, grapes and cranberries, compare favorably with the average. Fruit, quality: apples, pears, peaches and grapes, good; cranberries, fair. No damage from frost. There has been a great awakening in the interest in apple orchards and also in other fruits. We have larger and better fruit through modern methods of caring for fruit trees.

Eastham (A. L. Nickerson). — The corn crop is possibly a little better than normal. The rowen crop is better than average. Fall feed is better than usual. About the usual amount of fall seeding has been done; its condition is good. There is a bumper potato yield, of excellent quality. There is very little market gardening done here, but the potato crop is excellent and the quality is of the best. Asparagus has made a good growth and is looking well. Fruit, yield: apples, about normal; pears, large; grapes, more than usual; cranberries, average. Fruit, quality: apples, very fine; pears, good; grapes, good; cranberries, about as usual. No frost damage. There is more interest being taken in the subjects of pruning and general care of the apple orchard than formerly.

Truro (John B. Dyer). — Only a very little Indian corn is raised, but the crop is about an average. Rowen is probably up to the usual average. Fall feed is barely up to average, on account of dry weather. The usual amount of fall seeding has been done, and it is in normal condition. The onion crop is an average one. Potatoes are fair in quality, average in yield. Turnips and beets offer a good prospect; celery is hardly an average crop; other late market-garden crops are normal. Fruit, yield: apples, pears, peaches and grapes, average; cranberries, above average. Fruit, quality: Early Black cranberries are rather small in most cases, on account of the dry summer. Slight damage to garden vegetables was done by frost on September 22, but none to cranberries. Spraying methods are growing in favor, and more general interest is manifested in better care of the apple orchard.

DUKES COUNTY.

West Tisbury (George Hunt Luce). — Indian corn is an average crop. Rowen and fall feed are up to the usual average. Very little fall seeding has been done. Very few onions raised. Potatoes are of good quality, but about 70 per cent of a full crop. Prospect for root crops is very good. Fruit, yield: apples and pears, average; peaches, much below average; grapes, average; cranberries, below average. Fruit, quality: apples, good; pears, fair; peaches, poor; grapes, fair. No frost damage. Very little interest is manifested in modern methods of pruning and the general care of the apple orchard.

BULLETIN OF
MASSACHUSETTS BOARD OF AGRICULTURE.

PRUNING THE APPLE TREE.

By C. D. Jarvis, Ph.D., Connecticut Agricultural College.

The Ideal in Pruning.

The architect or builder, before building a house, selects a certain style of structure and this style is followed to the end. The man who would be successful in building up a fruit-bearing structure must also select a style or ideal, and this ideal should be kept constantly in mind throughout the various stages of development. The apple tree is a wonderfully tractable object and may be made to assume almost any shape. Any one who has tried to develop a spreading habit in a Sutton apple tree may disagree with me on this point, for this and some other varieties are sometimes difficult to train, but even the most obstinate cases may be brought under control if proper methods are followed. The methods that have proven successful with some sorts, however, may not be suited to others. For example, a young Greening tree will assume a spreading habit without any special effort on the part of the grower, while a young Sutton will require a severe check in its growth to encourage the production of fruit, the weight of which tends to bring the branches down to a horizontal position.

In the pruning of apple trees there are two distinct styles or ideals, the central-leader type and the open-center type, each with its corps of adherents. Figs. 1 and 2 illustrate these two types of structures. The supporters of the central-leader type claim that it is a stronger structure and not so likely to be broken down by wind and heavy crops of fruit. This is a strong argument, but it is offset by many disadvantages. With certain naturally spreading varieties, like Greening, Tolman Sweet, or Fall Pippin, it works very well, but with the upright growers there is a tendency to grow too tall and to get out of reach of the spraying apparatus. In the west it is a common practice to grow trees with central leaders, and the result is very satisfactory. In the east, however, the climatic con-

ditions are much different, and we require all the sunlight available to give the necessary color to the fruit. The open-center tree admits the maximum amount of sunlight, and with such a tree the work of spraying and harvesting is minimized.

To develop the ideal fruit-bearing structure we must commence when the tree is in the nursery row. Here the central leader is cut back and the growth of side branches encouraged. It is well to have the main branches or scaffold limbs well distributed along the stem or trunk, and never should two opposite branches be allowed to develop at the same point, for a crotch formed in this way is likely to split. With most varieties the lowest branch of the tree should be started at a distance of about 20 inches from the ground and

Fig. 1. — An apple tree in which the central leader has been allowed to develop. Such trees are inclined to grow too high. Compare with Fig. 2.

the uppermost branch about 30 inches. Three or four main branches are sufficient to form the head.

The main branches are headed in to about 8 or 10 inches when the tree is set. The following season the secondary branches in turn will need to be headed in. The growth may be directed to some extent by cutting back to a bud pointing in the desired direction. In this way a spreading habit may be induced by cutting back to a bud that points outward. Despite such precautions some varieties, especially when making a strong growth, are bound to grow upright. Trees of such varieties should be headed as near the ground as possible, and even then it will be necessary to check their growth in some way.

By regularly cutting back the upright branches and by eliminating the cross branches in the center of the tree an open-center habit may be developed and maintained. Short fruiting spurs should be allowed to develop along the main branches. Watersprouts or "suckers" if headed in will soon develop fruit spurs, and when the center of the tree is kept open the fruit borne here will have an opportunity to develop normally.

Orchard Renovation.

In the mature orchards of the east there appears to have been no effort to follow any particular style. Most of the orchards show signs of having received a few feeble and spasmodic applications of the pruning saw, or, to be more accurate, I should say a few slashes with the axe, and judging from the appearance of the wounds the axe was not always a sharp one. Many of these old orchards, al-

Fig. 2.—The open-center habit of growth. A well-balanced tree with plenty of room for the admission of light and air. Most orchardists favor this type of tree in preference to the type shown in Fig. 1.

though unprofitable, are in a good sound condition, and with a little judicious pruning, spraying, cultivating and feeding may be put on a profitable basis.

The pruning of these old existing trees, therefore, is the first problem that confronts the apple grower in the east. The work in most cases consists mainly in cutting out the central leader. Of course the remainder of the tree will require some thinning. All upright growing branches should be removed and the long slender branches headed in. All dead branches and stubs should also be cut off closely. Sometimes it will be necessary to clean out and seal up cavities, but if a large proportion of the trees require such surgical treatment it is doubtful whether the orchard will bear the expense. Knot-hole cavities, after being cleaned out, sterilized and having the surround-

ing wood sawn off smoothly, may be sealed up by tacking a piece of zinc over the freshly painted surface. The zinc plate should be slightly smaller than the wound so that the bark will heal over the edge. Coal tar is the substance commonly used for sterilizing and painting the wounds.

This abnormal treatment, however, is "butchery" rather than pruning. When trees have been properly taken care of from the start there is no need for such treatment. Pruning should be regarded as a work of training rather than of correction.

Time to Prune.

Regular annual pruning or training will give best results. A severe pruning once in three or four years upsets the equilibrium of the tree, and in the long run is not economical. As a rule, pruning should be done while the tree is dormant. Some prefer to prune in the early spring for the reason that wounds made at this time usually heal over more readily. If the work is started in the fall it is more likely to get the attention that it deserves, and when the first suitable days for spraying arrive the trees will be ready. An additional advantage of fall pruning is found in that wounds made in the fall have a chance to dry out over winter and may be more effectively sealed up with paint in the spring than freshly made wounds.

Summer Prune to check Growth.

The practice of summer pruning as applied to apple trees is almost unknown in New England. Undoubtedly there are occasions when judicious summer pruning is justifiable, and in the hands of the skillful orchardist it is often a very profitable procedure. It should be remembered that during the growing season it is a devitalizing process and has the opposite effect to winter pruning. It is well known that when trees are making very rapid growth they are not likely to set fruit, and when a tree becomes weakened from any cause it immediately assumes the fruit-bearing habit. Knowing these tendencies there seems to be no better way of regulating the amount of growth than by seasonal pruning. The rule is to prune in winter for vegetative growth and in summer for fruit. When trees are making a strong growth, then summer pruning is recommended. As a rule, the last part of June is the best time for summer pruning. It is seldom advisable to do a complete job at this season of the year, but just enough of the branches should be removed to check the growth. With young trees it is often advisable to summer prune to start them into bearing, but with mature trees the practice is seldom necessary, for sufficient check usually may be afforded by withholding nitrogenous fertilizers and by allowing weeds or some other crop to grow in the orchard.

SERIES OF 1912. VOL. 25. NO. 6.

MASSACHUSETTS

CROP REPORT

FOR THE

MONTH OF OCTOBER, 1912.

SOME SUGGESTIONS ON BARN BUILDING.

ISSUED MONTHLY, MAY TO OCTOBER, BY STATE BOARD OF AGRICULTURE, STATE HOUSE, BOSTON, MASS.

J. LEWIS ELLSWORTH, *Secretary.*

ENTERED JUNE 3, 1904, AT BOSTON, MASS., AS SECOND-CLASS MATTER, UNDER ACT OF CONGRESS OF JUNE 6, 1900.

BOSTON:
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
18 POST OFFICE SQUARE.
1912.

Approved by

The State Board of Publication.

Crop Report for the Month of October, 1912.

Office of State Board of Agriculture,
Boston, Mass., Nov. 1, 1912.

With this issue, volume 25 of the Massachusetts Crop Report is completed. In addition to the special letter to our crop correspondents, which was sent out with the blanks for the last report, we would here again express our hearty appreciation of their services, which, unremunerated, but prompt and regular, have made the publication of the Crop Report possible. Their services are appreciated by ourselves and by our readers, and any personal favor which at any time may come within our province we shall take pleasure in granting.

The special articles printed this year have been: Bulletin No. 1, "Pork making for Massachusetts farmers," by Dr. George M. Twitchell; Bulletin No. 2, "Irrigation in Massachusetts," by Henry M. Howard; Bulletin No. 3, "Silos and silage," by H. O. Daniels; Bulletin No. 4, "Ducks and geese," by John H. Robinson; Bulletin No. 5, "Pruning the apple tree," by Dr. C. D. Jarvis. The article on pruning is intended to supplement our Bulletin No. 2 on "Apple growing," published in May, 1912, which is a fairly complete treatise of nearly all phases of the industry. All of the above bulletins are still available and may be had by applying to this office.

In this issue we print an article, "Some suggestions on barn building," by Prof. J. A. Foord, of the Massachusetts Agricultural College. In remodeling the old barn, or planning a new structure, many times the farmer is at a loss just how to get the best results. We feel that this article, with its accompanying illustrations, will be of great value when an undertaking of this nature is contemplated. The labor problem is a large one, and the structure which reduces the amount of necessary labor to a minimum is the most economical and practical for the dairy farmer and for the general farmer as

well. If there are other problems of construction which may confront our readers, we shall be glad to assist them at any time, so far as may lay in our power.

Progress of the Season.

The Crop Reporting Board of the Bureau of Statistics of the United States Department of Agriculture estimates from the reports of the correspondents and agents of the Bureau, as follows, for the United States: —

Crop.	Condition October 1, or at Time of Harvest (Per Cent).			Condition Sept. 1, 1912 (Per Cent).	Acreage, 1912.	
	1912.	1911.	Ten-Year Average.		Per Cent of 1911.	Acres.
Corn,	82.2	70.4	80.4	82.1	102.2	108,110,000
Buckwheat,	89.2	81.4	83.3	91.6	100.2	835,000
Potatoes,	85.1	62.3	76.2	87.2	101.9	3,689,000
Tobacco,	81.8	80.5	83.3	81.1	117.9	1,194,200
Flax,	83.8	69.6	77.9[1]	86.3	108.5	2,992,000
Rice,	89.2	85.4	84.8	88.8	102.0	710,100
Apples,	67.8	59.8	53.7	67.9	–	–

[1] Nine-year average.

The yields indicated by the condition of crops on Oct. 1, 1912, or at time of harvest, and the final yields in preceding years, for comparison, follow: —

Crop.	Yield per Acre (Bushels).			Total Production in Millions of Bushels.			Increase (+) or Decrease (—) in Prospects during September (Per Cent).
	1912.[1]	Final, 1911.	Average, 1906-10.	1912.[1]	Final, 1911.	Final, 1910.	
Corn,	27.9	23.9	27.1	3,016	2,531	2,886	+0.7
Buckwheat,	21.4	21.1	19.5	18	18	18	+0.5
White potatoes,	103.8	80.9	96.8	401	293	349	+0.7
Tobacco (pounds),	816.0	893.7	828.0	974	905	1,103	—0.2
Flax,	9.8[2]	7.0	8.7	29	19	13	+1.4
Rice,	33.4	32.9	32.4	24	23	25	+2.1

[1] Interpreted from condition reports. [2] Based on average for 1905–1909.

Preliminary estimates of production have been made as follows: —

Crop.	Yield Per Acre.			Production.		
	1912.	Final, 1911.	Average, 1906-10.	1912.	Final, 1911.	Final, 1910.
Spring wheat (bushels),	17.2	9.4	13.4	330,391,000	190,682,000	200,979,000
Winter wheat (bushels),	15.1	14.8	15.5	389,942,000	430,650,000	434,142,000
All wheat (bushels),	16.0	12.5	14.6	720,333,000	621,338,000	635,121,000
Oats (bushels),	37.4	24.4	28.4	1,417,172,000	922,298,000	1,186,341,000
Barley (bushels),	29.7	21.0	24.8	224,619,000	160,240,000	173,832,000
Rye (bushels),	16.9	15.6	16.3	35,422,000	33,119,000	34,897,000
Hay (tame) (tons),	1.47	1.14	1.42	72,425,000	54,916,000	69,378,000

The quality of spring wheat is 88.7 per cent, compared with a ten-year average of 86.8; oats, 91 per cent, compared with a ten-year average of 86.7; barley, 86.2 per cent, compared with a ten-year average of 87.1.

In Massachusetts the average condition of corn October 1 was 90; the yield per acre of oats, 34 bushels, the production, 272,000 bushels, and the quality, 89; the condition of buckwheat was 92; of potatoes, 85; of tobacco, 93; of apples, 76; of grapes, 88; of pears, 65; of cranberries, 77; the yield per acre of cabbage, 7 tons; of onions, 340 bushels; the production of tomatoes, compared with a full crop, was 89; of cabbages, 91; of onions, 91; of beans, dry, 89; of Lima beans, 83; of millet for hay, 90; of millet for seed, 75; of Canadian peas for forage, 85. Estimates of acreage and production are preliminary and subject to modification later.

Massachusetts Weather, 1912.

[Furnished by Weather Bureau, Boston.]

January: The month was unusually cold, with precipitation generally below the normal. The monthly mean temperature in the several sections of the State ranged from 5° to 8° below the normal for the month. The unusually low mean was, however, due to uniformly cold weather throughout the month, rather than to any extremely low range of the mer-

cury. There was somewhat more than the average amount of snowfall in nearly all sections, but on account of the low temperatures prevailing during the snowstorms the water equivalent was small, which accounts for the monthly precipitation being below the normal. The ground was covered with snow throughout the month, the amounts at the close ranging from 4 to 12 inches.

February: Fair, cold weather prevailed through the first two decades. After the 19th the temperatures were somewhat higher, with copious precipitation. The ground was well covered with snow during the month, excepting in southeastern portions of the State, where there was little after the 20th. The monthly precipitation was generally slightly below the February normal. The monthly mean temperatures were very nearly the same as during January, ranging from 4° to 7° below the normal. There was more than the average amount of sunshine.

March: The temperature was very near the seasonal average, with excessive monthly precipitation. The monthly amounts of precipitation ranged from 4 to over 8 inches. The snowfall was above the average, the amounts for the month ranging from 6 inches in coast sections to 15 inches in the interior. The weather of the month was characterized by much cloudiness, with frequent precipitation, rain or snow falling on an average of seventeen days. Generally speaking, March was a stormy, disagreeable month.

April: The weather conditions of the month were generally seasonable. The average temperature was normal, and there were no marked extremes in either maximum or minimum temperatures. The precipitation was about the average in all sections, and although there were no very heavy amounts of rain in any one storm, the number of days with precipitation was greater than usual. The month as a whole was generally cloudy, and at the close the season was from a week to ten days later than the average.

May: The mean temperature was slightly higher than the average of May, with somewhat more than the normal rainfall. The month opened with several days of seasonal tem-

peratures, followed by a cool spell from the 4th to the 9th, during which the temperatures ranged from 2° to 10° below the average. With slight exceptions the daily temperatures during the rest of the month were above the average, the excesses being quite marked from the 17th to the 19th, and from the 24th to the 29th, the highest temperatures of the month occurring during the latter period. The rainfall was well distributed through the month and over the State, and the monthly amounts ranged from near the average to from 1 to 2 inches above. Rain fell on an average of twelve days. Thunderstorms of considerable severity occurred on several days, generally in eastern sections. There was less than the average amount of sunshine. Generally speaking, the weather of the month was not very favorable to outdoor pursuits, and at the close the season was from a week to a fortnight later than the average.

June: The past spring has been one of the wettest in the last ten years, the rainfall for the months of March, April and May exceeding that of any other similar period since 1901. Since the 1st of June, however, there has been no rain other than scattered light local showers, the total amounts of which have generally been less than one-half inch, making it the driest June in this section during the past forty years. The ground being so saturated with water at the beginning of the month, together with higher temperature and abundant sunshine, made the conditions very favorable for growth, and most favorable for the hay crop. There was some damage from frost to garden truck and on cranberry bogs during the first half of the month. At the close of the month the ground was becoming dry and rain was generally needed, except in low land. The amount of sunshine was much greater than usual.

July: The weather conditions of July were near the average, with the mean temperature slightly above the normal, and the rainfall, over the greater portion of the State, below the July average. The temperature, from the 3d to the 16th was generally above the normal, the daily excesses ranging from 2° to 15°, and from the 4th to the 11th it rose to 90°

or above on nearly every day. During the rest of the month the weather was somewhat cool for the season, with temperatures from 2° to 4° below the seasonal average, the nights cool, and very few days when the temperature rose above 80°. The rainfall was quite unevenly distributed, the monthly amounts ranging in some sections from less than 2 inches to more than 5 inches in others. Generally speaking, nearly all of the rain fell between the 11th and the 21st, and on the last three days of the month. Amounts of an inch or more in twenty-four hours occurred in numerous sections in both periods, and, in some, more than 2 inches fell in the time mentioned. Rain fell in varying amounts on an average of ten days. In some localities severe thunderstorms occurred during the first half of the month, with considerable damage resulting from lightning and from high winds. At the close of the month the ground was sufficiently moist for general needs, and the conditions were excellent, excepting the need of somewhat higher temperature.

August: The month as a whole was drier than usual, with the monthly mean temperature very near normal. Notwithstanding that the precipitation in some sections was 50 per cent below the August average, it was so well distributed through the month in the form of light to moderate showers that there was little complaint of the dry weather. At Boston the total rainfall of the month was 1.94 inches, while the normal for the month is 4.03 inches. Severe local storms in some localities, that were attended by heavy downpours of rain, reported monthly precipitation considerable in excess of the average, but otherwise the month was considered dry. The month opened and closed with unseasonably cool weather, the daily temperatures during the time ranging from 3° to 8° below the average; but warm spells that prevailed from the 8th to the 15th, and from the 22d to the 25th, with daily temperature from 4° to 10° above the normal, counterbalanced the cool weather during the rest of the month, and gave a mean for the month that was practically normal. While there were a number of oppressive days during the month, weather conditions popularly known as "dog days"

were much less marked than usual in August. The sunshine was about the average, and, generally speaking, the weather of the month was unusually pleasant for the season.

September: The weather of the month was very near the seasonal average, with the exception of the rainfall, which was from 25 to 40 per cent below the September average. While the month was somewhat warmer than usual, the daily temperatures averaging about 1° above the normal, there were no very warm days, and very few on which the maximum temperature rose to 90° or above. The first few days were cool, followed by daily mean temperatures ranging from 1° to 10° above the September average from the 4th to the 19th inclusive, so that at the end of the third week there was an accumulated excess of temperatures,. as compared with the normal, of from 60° to 70°; but during the last decade there was almost a daily falling off of from 2° to 8°, making the monthly average but little above the normal. The rainfall, while considerably below the normal, was quite well distributed through the month, resulting in little complaint from the dry weather and the deficiency in precipitation. Severe local storms occurred in some sections, but there was an absence of prolonged storms of heavy rains and high winds that are in some years characteristic of the month. Dense fogs were infrequent, and the percentage of easterly winds was low. Notwithstanding the small rainfall of the month the cloudiness was up to the average. The weather as a whole was very favorable to outdoor work and to agricultural pursuits, and, owing to its mildness, there was no general damage to crops from frost.

Weather of October, 1912.

October was abnormally warm, and very dry, the mean temperature being about 5° above the normal, and the precipitation from 30 to 50 per cent below the October average. The excess in the temperature was not due to any unusual maxima temperatures or hot spells, but to uniformly moderately high temperatures on nearly all days, and moderate nights through the month. In numerous sections frost did

not occur till the middle of the month, and in some favored localities there was none till near the close. The rainfall was very unequally distributed, the monthly amounts in some sections being less than an inch, while in others they were from 2 to 4 inches or more. The rainfall occurred mostly in the last decade. A general storm prevailed on the 23d during which the rains were quite heavy in some sections, with amounts of over an inch in twenty-four hours. Rain fell on an average of twelve days. The dry weather of the month was very favorable to harvesting and housing of crops, to fall plowing and cultivating, and to outdoor pursuits generally, but it resulted in more or less damage from forest and other fires. At the close there is a general need of rain, and there will be considerable damage to various interests unless substantial rains occur before the setting in of winter.

Publications.

Copies of the September Crop Report, containing the article by Dr. C. D. Jarvis, on "Pruning the apple tree," are still available. Copies of Bulletin No. 2, on "Apple growing," and of this Crop Report will be mailed to all applicants.

The third edition of our Bulletin No. 1, entitled "Poultry culture," with an index and also a bibliography of other reliable poultry literature, including bulletins of various experiment stations, has just been received from the printer, and all requests for this bulletin will be filled. Articles on the various phases of the industry by the following well known authors are contained in the bulletin: Mr. John H. Robinson, editor of "Farm Poultry;" Arthur A. Brigham, Ph.D.; Dr. James B. Paige; Rev. W. H. Davenport; and Mr. Henry D. Smith.

The second edition, revised, of our Bulletin No. 4, on "Small fruits and berries," is in the hands of the printer and will be available for distribution during the coming month. This also will contain an index and a bibliography of additional reliable literature on the various subjects included in the bulletin. Articles in this bulletin are by the following authors: Prof. F. A. Waugh, Prof. F. C. Sears, Mr. J. H.

Hale, Mr. George T. Powell, Mr. Edward R. Farrar, Prof. F. S. Card and Mr. Lucien J. Fosdick. All applications for this bulletin will be placed on file and the bulletin sent as soon as it is ready for distribution.

The annual report of this Board for 1911 is also expected and will probably be ready for distribution about the time this bulletin is in the hands of our readers. Among the lectures and essays contained in this volume are the following: —

The Influence of Soil Variation on Crop Production.
The Advantages of New England as a Fruit-Growing Center.
The Production of Sanitary Milk by our Present Milk Producers.[1]
The Rights of the Producer in the Consumer's Dollar.
The Growing and Marketing of Squashes, Melons and Cucumbers.[2]
Cabbage and Cauliflower as Market-Garden and Farm Crops.[2]
The More Important Root Crops of the Market Garden.[2]
Beans, Corn, Tomatoes, Lettuce and Spinach as Market-Garden Crops.[2]
Some of the Essentials of Beekeeping.[1]

In addition to the above the report contains the annual reports to the Board of the State Nursery Inspector, the State Ornithologist, the State Inspector of Apiaries, the State Dairy Bureau, the State Forester, and the semi-annual report of the Chief of the Cattle Bureau, all of which are also available in separate form; also the annual report of the Secretary of the Board of Agriculture, a synopsis of the financial returns and premiums and gratuities of the agricultural societies, and a directory of agricultural organizations in the State. The volume also includes the annual report of the Massachusetts Agricultural Experiment Station at Amherst. This volume is for free distribution, but our appropriation is insufficient to cover transportation charges. Upon receipt of such instructions we shall be pleased to forward a copy of the book by express, collect. The postage on the volume cannot be ascertained at this time, but applicants will be informed as soon as possible. It will probably not amount to more than 25 cents.

---

[1] Published in pamphlet form.
[2] Contained in Bulletin No. 5 on "Vegetable growing."

An indexed list of all available publications of this office is also in course of preparation, and all applications for this list will be placed on file and a copy of this list mailed as soon as it is available.

History of the Game Birds, Wild-Fowl and Shore Birds of Massachusetts and Adjacent States.

A companion book to "Useful Birds and their Protection," by Edward Howe Forbush, State Ornithologist, has been prepared by the same author and copies are now available through this office. The title of the book is, "A History of the Game Birds, Wild-Fowl and Shore Birds of Massachusetts and Adjacent States." This is a cloth-bound volume of over 600 pages, fully illustrated. The bill providing for the publication of this volume is chapter 90 of the Resolves of 1910. The resolve provides for the sale of the book at not less than the cost of printing and binding. The price of the book is $1, and the purchaser must pay the cost of transportation, which is 41 cents per volume, postage. The book will be sent by express, collect, if desired. The work itself is a full and complete history of game birds, wild-fowl and shore birds of this section of the country, and includes those used for food which have disappeared since the settlement of the country, and those which are now hunted for food or sport, with observations on their former abundance and recent decrease in numbers; also the means for conserving those still in existence. Copies of the previous book, "Useful Birds and their Protection," written by Mr. Forbush, and published by the State Board of Agriculture, may also be obtained through this office at $1 per copy, plus 36 cents postage on each volume. These two books form a very valuable treatise of the birds of Massachusetts and adjacent States and should have a prominent place in every library, and especially in the libraries of those who are particularly interested in the conservation of our wild life, of which the feathered tribe forms such an important part.

Public Winter Meeting.

The Public Winter Meeting of the State Board of Agriculture for lectures and discussions will be held at the Town Hall, Framingham, Mass., December 3, 4 and 5, 1912. Admission to all lectures is free to the public, who are invited to take part in the discussions which will follow the lectures. The lectures delivered at the meeting, together with an abstract of the discussions, will be printed in the next Annual Report of the Board. The following program will be carried out: —

Tuesday, December 3.

10 A.M. — Address of welcome by John Bowditch, Esq., chairman of the selectmen of Framingham and president of the Middlesex South Agricultural Society.

Response by John Bursley, Esq., first vice-president of the State Board of Agriculture.

10.30 A.M. — Lecture: "Heredity and the Dairy Cow," by Prof. J. M. Trueman, professor of dairy husbandry, Connecticut Agricultural College, Storrs, Conn.

2 P.M. — Lecture: "Production, Distribution and Consumption of Clean Milk," by Ivan C. Weld, dairy investigator, Washington, D. C.

8 P.M. — Lecture: "Dairying, an Important Factor in Agriculture, as demonstrated in European Countries," by Prof. Oscar Erf, department of dairying, Ohio State University, Columbus, O.

Wednesday, December 4.

10 A.M. — Lecture: "Storage of Apples," by Prof. F. C. Sears, professor of pomology, Massachusetts Agricultural College, Amherst, Mass.

2 P.M. — Lecture: "Some Practical Points in the Management of Poultry for Egg Production" (with stereopticon), by Prof. James C. Rice, professor of poultry husbandry, New York State College of Agriculture, Cornell University, Ithaca, N. Y.

8 P.M. — Lecture: "Growing Small Fruits and Berries," by Wilfrid Wheeler, Concord, Mass., fruit grower and member of the Board.

Thursday, December 5.

10 A.M. — Lecture: "Recent Advancement in Market Gardening," by Prof. R. L. Watts, professor of horticulture, Pennsylvania State College, State College, Pa.

Crops of the Year.

The month of May opened with several days of seasonable temperature which was followed by a short cool spell, and the rest of the month was about the average, the mean temperature being slightly higher than the average for the month. The rainfall was fairly well distributed through the month and amounts ranged from average up to two inches above. Generally speaking, the weather was not very favorable for planting operations, and at the close of the month the season was from ten days to two weeks late. The excess of rain filled the ground with water to such an extent that it was impossible to plow much of the land. This rain, on the other hand, was exceedingly beneficial to mowings and pastures, and following the severe drought of the past two seasons greatly benefited the dried-up sward. Fall seeding wintered fairly well, although the winter was a very severe one. The fruit bloom was reported, generally, about normal, although somewhat late, with the exception of peaches, which were somewhat badly winter-killed. There was very little frost injury. The cold wet weather was an excellent check to the activity of insect pests, and very little damage was reported for the month of May, most of this, however, being done by the tent caterpillar. Planting was very much behind, owing to the backward season and scarcity of help, and great fear was felt that if the seeds were put in the ground they would rot before germinating. On high ordinarily dry land germination was excellent. Farm help appeared to be very scarce, and the percentage of good help small; the average pay with board was estimated to be from $25 to $30 per month. Replies to the query as to pheasant damage gave striking evidence of the danger of allowing this bird to become too plentiful, as in sections where this has happened great damage to crops has resulted.

During the month of June no rain, except scattered showers, fell throughout the State, and conditions at the close were just the reverse of the previous month. The conditions were exceedingly favorable for the growth of the hay crop and were conducive to a good growth of vegetation in general. With the advent of the warm weather insects became active and did considerable damage during this month, potato beetles being reported as most destructive in the greatest number of instances, although cutworms, tent caterpillars, gypsy and brown-tail moths, and the elm-leaf beetle, were quite generally reported. Corn was very late at this time, much seed having rotted in the ground so that many fields had to be replanted in whole or in part. The rains of early spring were not sufficient to offset the damage done by the droughts of the previous years, and the hay crop was not quite up to normal. Acreage of early potatoes was less than usual, and in places only late varieties were planted, owing to the excessive wet weather of May. All market-garden crops were backward but looked fairly well at this time. The supply of dairy products was somewhat smaller, and prices were a little higher than last year. Dairy cows were reported scarce in number and high in price. Although the early rains probably helped out pastures, they were at this time beginning to show the effects of the dry weather. The prospects for apples were fair to good; peaches and pears a light crop; plums were about as usual; cherries were a normal crop; strawberries yielded well in most sections, the earlier varieties showing up better than the later. Other berries offered bright prospects provided sufficient rain was forthcoming. Local frosts from the 6th to the 10th and from the 13th to the 15th did some damage in various parts of the State. The special question in regard to irrigation showed that this method of supplementing scanty rainfall is practiced only in the market-garden sections in the vicinity of the larger cities.

The drought continued during the month of July with disastrous effects in some cases. The reports on insect damage showed that the potato beetle was doing the greatest

amount of damage, and the elm-leaf beetle and plant lice were quite generally reported. Indian corn at this time was about two weeks, or possibly more, behind the average, and fear was felt that it would be necessary to put all in the silo or feed it green. The drouth was disastrous to the hay crop, and although the quality was excellent, the quantity of the crop was much below normal. Forage crops felt the effects of the drought quite severely, but the rains about this time were of much benefit to these crops. Market-garden crops proved rather unsatisfactory, and early potatoes were very nearly a failure. The drought caused disastrous dropping of fruits; apples promised somewhat more than a half crop; pears a rather light crop; peaches, in general, a failure; plums a fairly good crop; quinces poor; grapes a very good crop, and cranberries about 50 per cent. Pastures at this time were very badly dried up, and farmers found it necessary to feed hay and grain. Small grains were seriously affected by the drought, and where not a total failure, yielded poorly. Some new apple orchards were set out, but the acreage was not especially large. The returns from the questions as to silos and silage indicated that less than one-half of the dairy farms of the State made use of the silo, and attention was called to the fact that in some localities the farmers were going out of the dairy business, owing to the high prices of grain and hay and feeds, and to the further fact that a living price could not be secured for dairy products.

The month of August was somewhat more favorable to vegetation. Corn, although uneven, and from ten days to two weeks late, promised fairly well at this time. The rowen crop did not promise well, and only early cut low lands promised a full crop. Late potatoes, while checked by the drought so that they were somewhat late, showed a good growth of vine at this time and promised a fair to medium crop, with very little rot, although the blight was in evidence. The tobacco crop was reported fully up to the average in quantity and quality. The prospect for apples was about a 60 to 70 per cent crop; pears, rather a light crop; peaches, a

failure; grapes, a good crop; quinces, fair; cranberries, rather small. Although pastures were badly affected by the drought they recovered during the rains of August so that they were in better condition than for some years past at that time. Although feed was still quite short, late market-garden crops at this time promised very good results.

The month of September was very favorable to agriculture, the absence of frosts allowing the crops, which were late, owing to the drought early in the season, to mature in fairly good shape. The rainfall, however, was slightly below the average for the month. The corn crop proved to be a very satisfactory one, probably about 88 per cent of normal for the State. Rowen came along in good shape, and a better crop was harvested than was indicated earlier in the season, although in some sections the crop was very light. Fall feed was reported in better condition, even, than rowen. But for the generous rains and warm weather during this month, grasslands would have been in a sad condition. Very little fall seeding had been done at the time of report, but this little was in good condition. The onion crop was about an average one, or slightly above, while prices ranged rather low. The potato crop turned out fairly well and was nearly up to normal and of very good quality, unusually free from scab. Late market-garden crops and root crops were very good, conditions during the month of September having been ideal for these crops. The apple crop was estimated at this time at about 68 to 70 per cent of an average crop, of excellent quality; pears were about a 55 per cent crop, of good quality. The southeastern counties of the State reported about a one-half crop of peaches; the rest of the State reported practically none; grapes proved to be a very good crop; cranberries were from 65 to 70 per cent of average, with more or less damage from insects. Only slight damage was done by frosts during the month of September, and this was only local. While neither early nor late frosts have done serious damage, it is a noteworthy fact that not a month has passed during 1912 which was not accompanied by more or less general frosts in different parts of the State. The replies to the question upon

"Apple growing" were of great interest, in that they plainly indicated the increased amount of interest and activity which have resulted in larger yields of better fruit.

Summary of Crop Conditions.

In the circular to crop correspondents, returnable October 24, the following questions were asked: —

1. (*a*) How does the corn crop compare with a normal (100 per cent representing normal) in quantity? In quality?

(*b*) Name any factors which, during the season, have been favorable or unfavorable to the best development of the corn crop.

2. Have root crops proved to be an average crop? (If below, state reasons.)

3. What is the condition of farm stock?

4. What is the condition of fall seeding?

5. How have prices for crops raised for market compared with former years?

6. Name, in order, the five most profitable crops in your locality this season.

7. Name, in order, the five least profitable crops in your locality this season.

8. Considered as a whole, has the season been a profitable one for farmers? (If not, state reasons.)

9. Have vegetation, streams, springs and wells recovered from the effects of the early drought?

Returns were received from 126 correspondents, from which the following summary has been prepared: —

The Corn Crop.

In the last Crop Report the fact was brought out that corn was quite late, and that a fall with an absence of killing frosts through September and early October would be the only salvation of the crop. The desired conditions obtained, and the returns for October show a decided improvement over the general conditions of early fall. Not only has there been an absence of killing frosts, but the weather was dry and warm until the majority of the crop ripened off. In

general, the quantity and quality of the crop seemed to be somewhat better in the eastern half of the State. For the State, as a whole, the crop was 90.6 per cent of normal in quantity and 92.8 per cent in quality, divided up by counties as follows (100 represents normal, and for each county the quantity is given first): Berkshire, 82, 74; Franklin, 84, 80; Hampshire, 87, 87; Hampden, 90, 94; Worcester, 87, 89; Middlesex, 91, 92; Essex, 93, 92; Norfolk, 96, 94; Bristol, 81, 94; Plymouth, 95, 100; Barnstable, 102, 97; Dukes, 100, 100. The cold, wet spring hindered planting, and some seed rotted. The long drought of June and July was also unfavorable, although corn withstood the dry weather better than many other crops. August was rather cool for the crop, although there was a good supply of moisture; but the favorable fall did much to offset the adverse conditions of the earlier part of the season, and the corn crop generally was very satisfactory.

Root Crops.

Taken as a whole, the season has not been especially good for root crops in general. The shorter season demanded by these products, however, allowed a better development than otherwise, as more favorable weather was accorded them during this period than other crops enjoyed which required a longer season. In general the crop was reported about up to the average or slightly below. The excessive wet weather and the drought which followed both did their share in preventing a full germination. Onions were an especially good crop, but prices have been very unsatisfactory. The dry weather of late fall was not conducive to the fullest development of turnips and other roots.

Farm Stock.

Pastures started in good shape with the abundant rains of the spring. In June the drought began to make itself felt, and in July pastures were generally reported as badly dried up and burned. The rains of late July, however, came to their relief, and after that time feed greatly improved, continuing excellent well into the fall, although at time of

reporting it was again getting very dry. The condition of farm stock is dependent upon feed and care. Care being practically uniform each year the question resolves itself into one of feed alone. This year is no exception, and stock is generally reported as from fair to good, although considered a trifle thin, in some cases, owing to the drought, during which time it was necessary to feed hay and grain.

Fall Seeding.

The dry weather this fall has been detrimental to fall seeding. The season being late, this seeding was necessarily postponed somewhat, and was followed by a long period with very little rain, resulting in some cases in a poor catch, and checking the development of that already started. The rains later in October, however, have helped out greatly, and fall seeded pieces may yet become fairly well established before the ground freezes up. Early seeding is reported in better condition than the later sown fields. Reports seem to show that a somewhat smaller amount of seeding than usual has been done this fall, owing to unsuitable weather conditions.

Prices.

In general, prices have ranged about the same as in former years, although there has been a slight tendency toward higher prices, with several exceptions in the case of individual crops. Seventy-seven correspondents report prices in general as normal, 25 report them above, and 17 as ranging below. Prices of potatoes, apples and onions are reported low in a large number of instances. This is partially due to the fact that prices for these products last year were above normal, and the change in price is therefore more marked. Tomatoes and cauliflower are spoken of in some instances as below the normal in price. The excessively wet spring and the succeeding drought, by curtailing some crops, caused short crops with a resulting higher run of prices; this, however, was of but little advantage to the farmer, as the aggregate receipts for these crops were not up to normal. The tendency of market prices has been somewhat irregular throughout the season.

Most Profitable Crops.

It is unavoidable that there be a wide difference of opinion as to the most profitable crops of the year, this difference conforming to the specialties of the different sections, to the activity of the farmers in each section, and to the varied conditions obtaining in different localities. A compilation of the returns, however, reveals the following facts: the five most profitable crops, together with the number of times each was included in the selected list, were as follows: corn, 92; hay, 90; potatoes, 67; apples, 55; and tomatoes, 14. As to the five most profitable, *taken in order,* the largest number unite upon the following list: first, hay, 53; second, corn, 37; third, potatoes, 28; fourth, apples, 16; and fifth, tomatoes, 5. It will thus be seen that hay is by far the most profitable, as a much larger number united upon this crop. Tomatoes, onions, rye, milk and cabbages were all nearly equal, but tomatoes were reported as the fifth most profitable crop a slight number of times in excess of the others.

Least Profitable Crops.

Figures as to the least profitable crops were compiled in the same manner as above. That corn, potatoes and hay appear in both lists is due to the fact that they were universally reported upon, and they must be balanced against each other in order to get a correct idea of their status. Many correspondents failed to reply to this question. The least profitable crops, according to the returns, together with the total number of times each was included in the selected list, were as follows: potatoes, 27; cabbages, 19; pears, 18; peaches, 15; root crops, 15; and vine crops, 15; the last three were tied for fourth place. As to the least profitable, *taken in order,* the largest number unite upon the following list: potatoes, 14; peas, 8; cabbages, 7; vine crops, 5; hay, 2; corn, 2. Numerous other crops are mentioned, but these head the list.

Profits of the Season.

Although the season started out badly with excessive rains and cold weather, followed by a long serious drought, fall frosts held off well, and other conditions gave the belated crops the opportunity necessary to regain what they had lost owing to the previous drawbacks. Crops, in general, were very good, but so many other problems enter into the problem of a " profitable season," that many report unfavorably. The scarcity and high price of help, low prices for certain products which were abundant, excessive cost of repairs to tools and buildings, high prices of grain and feeds, the high cost of living, — all these were cited as militating against a profitable season for the farmer. One correspondent called attention to the fact that onions sold for 40 cents per bushel, and at that rate the farmer must raise 5 bushels to pay the hired man for each day's work. One correspondent also states that the season has been " as profitable as it ever is."

Streams, Springs and Wells.

Vegetation during the latter part of the summer had an opportunity to recover from the drought, but the dry weather of the late autumn had begun to show its effect at the time the reports were made. Streams, springs and wells were very low, not having recovered. Consternation was felt for the winter water supply at that time, but the rains the latter part of the month have helped out the situation very much. More rain is needed, however, in order that the ground may become thoroughly saturated before freezing weather sets in. Some reports state that this has been the driest season for many years.

NOTES OF CORRESPONDENTS.

[Returned to us October 24.]

BERKSHIRE COUNTY.

Williamstown (S. A. Hickox). — The corn crop is 75 per cent of normal, both in quantity and in quality. The cold May rains and the June drought were unfavorable to the best development of the corn crop. Condition of farm stock is 90 per cent of the normal. The condition of fall seeding is 100 per cent of the normal. Prices for crops raised for market have been normal. The most profitable crops, in order, have been grass, late potatoes, ensilage corn, apples and late vegetables. The least profitable crops, in order, are oats, early potatoes, barley and early cabbage. The season has been a profitable one. Vegetation, streams, springs and wells have recovered from the effects of the early drought. Much corn had to be planted again and there was very little corn weather in August. Crops matured so slowly as to make our work two weeks behind the normal, and we barely escaped frosts. Milk and dairy products have been in good demand.

Lanesborough (W. E. Foster). — The crop of corn is 75 per cent of normal in quantity, with some soft corn. Plenty of cultivation has been favorable to the crop where practiced. Root crops are below the average on account of poor germination. Farm stock is in fair condition. The condition of fall seeding is good. Crop prices have been about the same. The most profitable crops, in order, have been hay, oats, corn, potatoes and cabbage. Considered as a whole, the season has not been a very profitable one for farmers on account of weather conditions.

Washington (E. H. Eames). — Corn is three-fourths of a normal crop, but of very good quality. Root crops have been an average. Farm stock is in good condition. Not any fall seeding done as yet. No crops raised for market — only for home use. The most profitable crops, in order, have been corn and potatoes. The least profitable crops, in order, have been oats, buckwheat and barley. Generally speaking, the season has been a profitable one. It will take very heavy rains for vegetation, streams, springs and wells to recover from the effects of the early drought.

Stockbridge (F. A. Palmer). — The corn crop is about 90 per cent of normal in quantity, and 80 per cent of normal in quality. The early season was too wet and midsummer too dry for the best development of the corn crop. Root crops have proved to be below the average on account of the extremes of wet and dry weather. Farm stock is in very good condition. Fall seeding is extra good. Market prices are somewhat higher than in former years. The most profitable crops, in order, have been hay, corn, oats, rye and buckwheat. The least profitable crops, in order, have been potatoes and apples. With good prices for his produce, the season has been very satisfactory to the farmer. Springs are still dry, as are wells. All such crops as are raised in the home garden have done well where cared for. Orchards, well cared for, have responded to such care, but many are neglected, with the result that there is little fruit.

West Stockbridge (J. S. Moore). — There is about the usual amount of corn, and with few exceptions it is of good quality. The crop was slow to mature for the lack of good hot weather, and dry weather was a factor unfavorable to its best development. Root crops have yielded in about the usual amount. Farm stock is looking well and compares favorably with other years. Not as much fall seeding has been done as usual, but the fields are looking well. There have been no particular changes in the market prices for crops except in the case of potatoes, of which there has been a large crop of good quality which is selling for lower prices than usual. Farmers, as a rule, keep no account of the cost of a crop, and any statement from them as to the most profitable or least profitable crops is guesswork. The season has been a profitable one for farmers; they are living better, dressing better, and get more out of life than a few years ago, all of which would indicate a profitable business. At present, streams and springs are low, and the early drought affected fall feed very much. A farmer's life is about the same each year, and he is obliged to contend with only one serious drawback, namely, help. It is next to impossible to obtain satisfactory help nowadays on the farm, and the farmer is obliged to limit his farm operations to only such work as he can accomplish by himself, or by exchange with neighbors. Farmers have no labor troubles and a strike on the farm is a thing unheard of.

Alford (Lester T. Osborne). — The corn crop is about 90 per cent of normal in both quantity and quality. The weather has been favorable for curing stover, the quality of which is 110 per cent. The cold, wet spring has been very unfavorable to the best development of the crop, but the late hot, dry weather brought forward the crop beyond expectation. Root crops have proved to be 100 per cent. Abundant moisture has made pastures fine and condition of farm stock is 110 per cent. Fall seeding is 100 per cent in condi-

tion. Prices for crops raised for market have been the same as in former years. The season has been quite as profitable as the average of the past five years. Vegetation seems to have recovered from the effects of the early drought, but streams, springs and wells are very low.

Tyringham (Edward H. Slater). — The corn crop is about 75 per cent of normal. It was seriously affected by the drought through the summer months. Root crops have proved to be a little below the average. Farm stock is in good condition. Fall seeding is looking well. Prices for farm crops have been about the same as in former years. The most profitable crops, in order, have been hay, corn and potatoes. Considered as a whole, the season has been a profitable one for farmers. Streams and springs have not fully recovered from the effects of the early drought.

Becket (William H. Snow). — In quantity the corn crop is 85 per cent of normal; in quality, 80 per cent. Early rains and frosts were unfavorable to the best growth of the crop, but corn has been favored by a late season. Root crops are fully an average, although the seeds did not start as quickly as usual on account of the cold and wet. Farm stock is in a very fair condition. The condition of fall seeding is good. Market prices for crops have compared favorably with those of former years. The most profitable crops, in order, have been hay, oats, potatoes, apples and pears. The least profitable crops, in order, have been corn and buckwheat. The season has been a profitable one for farmers. Some springs are either dry or low and some streams are very low.

FRANKLIN COUNTY.

Rowe (Henry D. Wright). — In quantity and in quality the corn crop is 50 per cent of normal. The cold, wet spring caused late planting of the crop. Root crops have been an average. Farm stock and fall seeding are in good condition. Market prices are below the average of former years. The most profitable crops, in order, have been hay, apples, oats, buckwheat and potatoes. The least profitable crops, in order, have been corn and potatoes. The season, as a whole, has been below the average, but fairly profitable. Wells and streams have not fully recovered from the effects of the early drought, but vegetation has.

Colrain (W. H. Davenport). — The corn crop is 110 per cent of normal in quantity and fine in quality. The "seeming" drought appears to have been ideal for corn growing. All root crops except early potatoes have proved good; they were a small crop. Farm stock is in good condition, and fall seeding excellent. Prices for crops have been about as usual — not above. The most profitable

crops, in order, have been apples, corn with silage, hay and late potatoes. This community raised little except these crops. The season has been profitable. Vegetation has recovered from the effects of the early drought, but streams, springs and wells have not.

Leyden (Frank R. Foster). — The corn crop is 65 per cent of normal in quantity and 85 per cent in quality. The cold, wet spring made it necessary to plant many fields over two or three times, which with dry weather and a cold August made the crop very backward. Root crops have been an average. Farm stock and fall seeding are in good condition. Market prices for crops are average, except apples, which are $1 per barrel lower. The most profitable crops, in order, have been hay, apples, potatoes and corn. Dry weather, a late season, many fields of corn not ripening, exceedingly high price of grain (out of proportion to the return), high price of help, and high price of living (we have to board our help), — all tend to make the last two years unprofitable. Grain is $1 per hundredweight higher than twelve years ago, while veal and pork are only 2 cents per pound higher; milk is 2 cents per quart higher at retail, and with cost of labor, board added, is 100 per cent higher than twelve years ago. This is not due to the Governor or the President, but to natural conditions and most largely to the working people who demand so much from the retailer in the way of service; also short hours, etc.

Bernardston (R. H. Cushman). — Some pieces of corn have yielded normal crops, but the average is 85 per cent; quality is good, 95 per cent. The early drought and occurrence of much smut have been unfavorable to the best development of the corn crop. Root crops have been a good average. Farm stock is in fine condition and fall seeding is looking extra well. Most crops bring somewhat higher prices than in former years. The season is generally conceded to have been the best ever. Vegetation has not recovered from the effects of the early drought, and streams, springs and wells are all very low.

Gill (Frank F. Stoughton). — Corn crop is generally not as good as usual, but some on the river land has yielded well. The early rains and midsummer drought hurt the crop. The condition of farm stock and fall seeding is good. Prices for crops have compared well with former years. Vegetation, streams, springs and wells have not recovered from the early drought.

Wendell (Nelson D. Plumb). — In quantity, the crop of corn is about 90 per cent of normal; in quality, fair. The dry weather during June, July and August was very unfavorable to the crop. Root crops have proved to be average. Farm stock is in good condition. The condition of fall seeding is fair, but rain is badly needed. Market prices for crops have ranged somewhat higher.

The most profitable crops, in order, have been hay, corn, potatoes, oats and apples. The least profitable crops, in order, have been onions, cabbage, turnips, strawberries and cucumbers. It has been a fair average year for farmers. The effects of the early drought were such that vegetation, streams, springs and wells have not recovered. It has been the driest season ever known in this town, and the majority of people are drawing water for home use.

Montague (A. M. Lyman). — Corn is a good fair crop. Where the corn is below normal the stover is above. The drought in the early part of the season retarded the crop, but the last five weeks' growth was excellent. Root crops are an average in that the shorter season required by them has been good. Farm stock is above the average, as fall seed has helped out (it is still green). Fall seeding is looking excellent; this practice should be encouraged. Market prices have been lower. The most profitable crops, in order, have been hay, corn, tobacco and onions. Gardening has been most profitable. The least profitable crops, in order, have been apples, potatoes, millet and buckwheat. It is hard finding a new dollar for an old one. To illustrate: onions selling at 40 cents per bushel means that each laborer gets about five bushels per day. Vegetation, streams, springs and wells have nearly recovered from the effects of the early drought. The recent rains have made the grass and pasture lands greenest of the season. The disposition of the farmers of this valley used to put more capital and labor into their acres in the line of specialties, but the past fifty years show that those who have stuck to mixed farming, with some dairying in it, are the best off.

Ashfield (Albert Howes). — In quantity corn is a normal crop; in quality, 90 per cent. The late, wet spring and dry weather in July and August were unfavorable factors, while the warm weather of September was a favorable factor, in the development of the corn crop. Root crops have been average. Farm stock looks well. Fall seeding is above average. Prices for crops for market have been a little below those of former years. The most profitable crops, in order, have been apples, corn, hay, dairy products and poultry. The least profitable crop has been potatoes. As a whole, the season has been a profitable one. Vegetation, streams, springs and wells have not recovered from the drought, but heavy rains at the time of making this report will probably help very much.

Sunderland (George P. Smith). — The crop of corn is normal in quantity and quality. Late planting followed by drought were factors unfavorable to the best development of the crop, but rain later on and the holding off of frost favored its maturing. Root crops have been average. Farm stock is in good condition. The condition of early seeding is poor; of later seeding, good. Market

prices have been lower, especially in the case of onions and potatoes. The most profitable crops, in order, have been tobacco, onions and hay. The least profitable crop has been potatoes. This has been a profitable year for farmers. Water supply is still low and vegetation has not recovered from the effects of the drought. A large percentage of the tobacco crop has been sold at good prices — 16 to 21 cents; primed, 22 to 25 cents. No sale of shade-grown tobacco has been reported. A good part of the onion crop has been sold, largely for storage, at 40 to 45 cents per bushel. Prices are now lower with very little buying. Yields of 800 to 1,100 bushels per acre are reported.

HAMPSHIRE COUNTY.

Plainfield (C. A. Williams). — Corn is about normal in most fields in quantity; in quality it is about 90 per cent of normal. The cold, wet spring was unfavorable, but the warm weather of July and August and the fact that frosts have held off have given the crop a chance to ripen off in good shape. Root crops are about an average, although some did not germinate very well, owing to the heavy rains of the late spring. Farm stock, as a rule, is in very good condition. Fall seeding is in very good condition, and with favorable conditions will winter well. The price of potatoes is a little below last year, other crops about the same. The most profitable crops, in order, have been hay, potatoes, ensilage corn, corn to husk and apples. The least profitable crops, in order, have been cranberries, cabbage, peaches, late fields of millet and barley. As a whole, the season has been a fairly profitable one for the farmers of this section, although the wet and cold spring and the drought later were drawbacks. Vegetation has recovered somewhat from the drought, but springs and wells have not and are now quite low. The frost held off so that crops had a chance to ripen in very good shape compared to what they would have been if we had had an early frost, as crops were very late. The rain on October 23 will help to fill the springs and wells and will insure a better water supply through the winter.

Cummington (W. A. Harlow). — It has been very dry since early spring for the corn crop. Root crops are not raised here to any great extent, but are about an average in condition. Farm stock is in good condition. Fall seeding is in very good shape. Very few crops are raised for market, with the exception of apples and potatoes, which sell for about one-third of former prices. The most profitable crops, in order, have been hay, corn, potatoes and apples. Considered as a whole, the season has been favorable to the dairy industry, which is our main dependence. Vegetation, streams,

springs and wells have not recovered from the drought, but we are now having the desired rain.

Goshen (George L. Barrus). — The corn crop is about 90 per cent of normal in quantity. Early planted corn was good, but much was planted late and is of poor quality. Many marked changes in temperature retarded even growth and the drought had a disastrous effect. The lack of frost has allowed ripening on high land. Root crops are about average. Farm stock is in good condition as fall feed has been good. Fall seeding is in good condition, and early September seeding seldom has looked better. The prices for farm crops have been about average. The most profitable crops, in order, have been hay, corn, potatoes and apples. Considered as a whole, the season has been a profitable one; apples, however, have not been very high in price. Vegetation, streams, springs and wells have seldom been lower at this time, but heavy rain is falling at this writing.

Chesterfield (Horatio Bisbee). — The corn crop is about 110 per cent of normal in quantity. Late planting was unfavorable, but the late fall has fully made this up. Early potatoes were a poor crop; late potatoes were good. It was too dry in July and August. Turnips were late in starting and made small growth. Too much dry weather and short feed have contributed to the present condition of farm stock, which is not very good. Fall seeding was a long time in starting, and we need a favorable winter to carry it through. Market prices have compared well with former years, although apples — which almost every farmer has to sell — are bringing a small price. The most profitable crops, in order, have been corn, late potatoes and hay. Dairying has been the next most profitable. The least profitable crops, in order, have been early potatoes, vine crops and apples. The season, as a whole, has been profitable, due to the profitable production of cream for the butter factory. Vegetation has not suffered of late, but streams, springs and wells are dry. The recent rains should help conditions. The price of dairy products has been well up through the season, and as all of our farmers keep cows for cream, which goes to the butter factory, I think the season will have proved fairly profitable.

Amherst (Benjamin G. Southwick). — The corn crop is 90 per cent of normal in quantity but normal in quality. The late spring and the following drought were unfavorable to its best development, but the late, warm autumn has proved of great benefit. Root crops have not proved an average due to a late start and a cool summer. Farm stock is in average condition and fall seeding is about normal, although it is too dry now. The market prices of onions have been 30 per cent off; of potatoes, 25 per cent off; hay, normal; tobacco, normal. The onion and potato market is very unsettled. The onion

yield is heavy. The most profitable crops, in order, have been tobacco, apples, onions, hay and corn. The least profitable crops, in order, have been peaches, sweet corn, plums, strawberries and asparagus. As a whole, the year has been a profitable one with good hay weather, good growing season, after crop started, and a long, warm fall. Vegetation, streams, springs and wells have not recovered from the effects of the early drought, and conditions are growing worse. The apple crop is excellent.

Hadley (L. W. West). — Corn is a normal crop in both quantity and quality. The wet May and early part of June were unfavorable to the crop, but the lateness of fall frosts was most beneficial. Root crops have been average with the exception of potatoes. It was very dry when potatoes were in blossom. The condition of farm stock and fall seeding is good. The prices for crops raised for market have been above the average up to within three weeks; the onion market is now dull. The most profitable crops, in order, have been tobacco, corn, hay, onions and potatoes. As a whole, this has been a profitable season for farmers with the exception of late onions. Vegetation and the water supply have not recovered from the early drought.

Enfield (D. O. Chickering). — The crop of corn is about 75 per cent of normal. The cold, wet spring was unfavorable to the crop. The wet spring, and then the drought, caused root crops to fall below the average. Farm stock is in about the usual condition. Fall seeding is in good condition at present. Prices for market crops have been fully up to the average. The most profitable crops, in order, have been hay, apples, potatoes and corn. This has been a fairly profitable season. Streams, springs and wells are very low and vegetation has not recovered from the drought.

South Hadley (W. F. Person). — Corn is about 75 per cent of a normal crop of good quality. The wet weather early in the spring was unfavorable to the corn crop. Root crops have been an average. Farm stock looks well. Fall seeding is late, but is looking well. Prices for all crops have been better this year than in years past. The most profitable crops, in order, have been hay, corn, cabbage, Japanese millet and tomatoes. The season, on the whole, has been better than the average of the past few years. It will be a long time before vegetation, streams, springs and wells will have recovered from the drought.

Easthampton (William C. Clapp). — The corn crop is not far below the average in quantity; in quality it is the same. The holding off of frost helped to ripen the ears, although the late, wet spring was unfavorable to its getting started. Root crops have proved to be an average. Farm stock is looking well. Fall seeding is in better condition than for some years. Market prices have ruled

good; demand has been good — about the same as last year. The most profitable crops, in order, have been tobacco, hay, apples, corn and potatoes. Dairying heads the list as the least profitable farm enterprise. The season has been about as profitable as it ever is. In some localities vegetation, streams, springs and wells have recovered from the effects of the drought; in some localities they have not recovered.

Southampton (C. B. Lyman). — The corn crop is about 80 per cent of normal in quantity, and in quality 75 per cent. The cold, dry May and June were unfavorable to corn, but the showers and warm weather of August and September were very favorable. All root crops except potatoes proved to be average; these are about 70 per cent of the average. Farm stock is looking fairly well. Fall seeding is in very good condition, being about 100 per cent. Prices for market crops have ruled a little better than former years. The most profitable crops, in order, have been tobacco, dairy products, corn, hay and potatoes. The season, as to profit for farmers, has been a full average. Vegetation has recovered from the early drought, but water supplies have not fully recovered. No very severe frosts hindered the ripening of corn and potatoes, and rowen took a fresh start, — not as large as sometimes, — and quite a good deal was cut as late as the middle of this month, and the farmers are very well satisfied with the prices obtained.

HAMPDEN COUNTY.

Russell (C. D. Parks). — The corn crop is 90 per cent of normal in quantity and 95 per cent of normal in quality. The first part of the season was very dry, but August rains and lack of frost ripened corn nicely. Root crops proved to be about an average. Farm stock is in good condition. Fall seeding is looking well. Market prices for crops have been about an average. The most profitable crops, in order, have been hay, corn, potatoes and apples. As a whole, it has been an average year for farmers. Streams are very low and the effects of the early drought are still apparent.

Southwick (L. H. Fowler). — The corn crop is up to normal in quality. The crop was held back earlier in the season by lack of moisture; later, plenty of rain during hot weather caused this to develop rapidly. Late root crops have proved an average. Farm stock and fall seeding are in good condition. Prices for crops raised for market have been about normal. The most profitable crops, in order, have been tobacco, corn, hay, potatoes and rye. Beyond all doubt, tobacco has been the most profitable. The season has been a profitable one. Vegetation has recovered from the effects of the early drought, but streams and some springs and wells are dry.

West Springfield (T. A. Rogers). — Corn proved to be a 100 per cent crop in quantity, but on account of a good many short ears is only 75 per cent in quality. A wet May, and consequently late planting, were unfavorable to the best development of the crop, and during the hot, dry July the stalks grew too fast and failed to tassel, silk and fertilize. Root crops have generally been a full average, with the exception of onions which have failed to ripen well. Young stock from summer pastures are generally thin; other stock is looking well. Most of the fall seeding is in good shape. Nearly all market crops have brought good prices. The most profitable crops, in order, have been hay, tobacco, corn, cabbage and grapes. The least profitable crops, in order, have been potatoes, apples, pears, blackberries and raspberries. This has been a full average season, all things considered. Wells and streams are very low, but vegetation has recovered from the early drought. The fall has been very favorable for maturing late crops as we had no killing frosts until October 10.

Ludlow (Chas. B. Bennett). — In quantity, corn is 90 per cent of the normal crop; in quality, normal. A very late fall gave the crop a chance to ripen. Root crops have proved fully up to the average. Farm stock is in very good condition. The condition of fall seeding is fair. With the exception of potatoes, crops have brought very much higher prices than former years. The most profitable crops, in order, have been hay, corn, potatoes, rye and oats. It has been a very good season for farmers. Vegetation has fairly recovered from the drought, but streams and springs are very low. The season just closing has been somewhat peculiar. A very late May delayed planting and gave grass a good start, but through June very little rain fell, and early potatoes were a failure. Pastures were short, and early cut mowings were burned to a crisp, so that there has been but little rowen. Late potatoes are very good and the apple crop is fair, but there are no peaches or pears. Farm help has been more scarce than ever, and wages higher. The price of milk has been raised, and consequently more milk will be made. The poultry business is flourishing; eggs are 50 cents per dozen and will be higher.

East Longmeadow (John L. Davis). — The corn crop is 75 per cent of normal in quantity and 80 per cent in quality. The cold, wet spring and summer drought militated against the best development of the crop. Root crops proved to be 75 per cent of the average; season was too dry. Farm stock is in fair condition, but not extra. All fall seeding is late, with not much done. Market prices are about average, with potatoes cheaper. The most profitable crops, in order, have been strawberries, corn, hay, market truck and sweet corn. The least profitable crops, in order, have

been potatoes, milk, rye, watermelons and apples. The season has not been a profitable one for farming. The spring was too cold and wet; summer was too dry. The want of good, reliable help was the greatest drawback. The effects of the early drought are still apparent in vegetation and water supplies.

Monson (F. D. Rogers). — In quantity, corn is 80 per cent of normal; in quality, 90 per cent. Root crops have proved to be an average. Stock is in good shape on farms where given proper care. Very little fall seeding has been done. Market prices have averaged about the same as in former years. The most profitable crops, in order, have been hay, corn (including silage), potatoes, poultry and milk. As a whole, the season has been fairly profitable, as the better price for some crops made up for shorter yields. Vegetation has improved since the early drought, but wells and springs are getting lower every day. We would usually put fruit near the top of the list, but a short crop prevents so doing.

Brimfield (F. N. Laurence). — The corn crop is 90 per cent of normal, so far as quantity is concerned, and 95 per cent as regards quality. The drought did not affect the crop as much as last year, and it came through with no damage from frosts on most lands. Root crops have not developed on account of dry weather this fall. Farm stock is looking well. Fall seeding is in fair shape. Prices for crops raised for market have been about an average. The most profitable crops, in order, have been corn, millet, rye, oats and beans. The least profitable crops, in order, have been hay, potatoes, cabbage, squash and turnips. This has been a profitable season. Many springs are now dry and it will take a large amount of rain before winter sets in to replenish streams, springs and wells.

Agawam (J. G. Burt). — The corn crop compares favorably with a normal one in quantity and about the same in quality. Root crops have not proved an average. Farm stock is looking well. The condition of fall seeding is not very good. Market prices have been about the same as in former years. The most profitable crops, in order, have been strawberries, hay, tomatoes, tobacco and corn. The least profitable crops, in order, have been pears, apples, potatoes and rowen. Because some crops suffered for want of rain, the season has not been a profitable one. Springs and wells are still low.

WORCESTER COUNTY.

Ashburnham (E. D. Gibson). — The corn crop for grain is about 75 per cent of normal; for the silo, 85 per cent. In quality the crop is somewhat poor, not being as well matured as might be desired. The drought was very unfavorable to the best development of the crop. The root crop is about an average one. Farm stock is in good

condition. Fall seeding is doing well. Prices for market crops have been as good as the average. Considered, as a whole, the season has been an average one from the standpoint of profits.

Phillipston (A. D. Clifford). — Root crops have been about an average. The prices received for market crops have been about an average, although somewhat less than last year. Vegetation has recovered from the early drought, but streams, springs and wells show the effects very badly.

Westminster (Frank W. Derby). — Corn has been an average crop in quantity and of very good quality, although the early drought was instrumental in making the crop somewhat backward. Farm stock is in fair condition. Fall seeding is also looking well. Prices for market crops have been about the average. The most profitable crops, in order, have been hay, potatoes, corn, apples and blueberries. The drought has been the greatest drawback to farming this season. Wells are lower than for years; some are dry that never before were known to fail.

Princeton (A. O. Tyler). — In quantity the corn crop is about 80 per cent of normal; in quality, 75 per cent. The cold spring, followed by the dry weather, together with the early frosts this fall, was unfavorable to the development of the crop. Root crops have been about the average. Farm stock looks well. Fall seeding is in good condition. Prices have been lower than formerly this season. The most profitable crops, in order, have been hay, corn, potatoes and apples. The least profitable crops, in order, have been oats and beans. I think that the season has been a profitable one. Vegetation, streams, springs and wells have by no means recovered from the early drought, wells having gone dry that have never been known to do so before.

Sterling Junction (Henry S. Sawyer). — The corn crop is about 75 per cent of normal in quantity and 85 per cent in quality. The cold, wet May made planting late; then came a drought of several weeks, during which the seed was very slow in germinating, some not sprouting at all. Owing to the drought in many localities, the root crop has not come up to an average. Farm stock generally is in good condition. Fall seeding is very good so far as I can ascertain. Very good prices have been the rule for most crops, with the exception of tomatoes. The most profitable crops, in order, have been hay, corn, apples and potatoes. The least profitable crops, in order, have been peas, beans, beets, tomatoes and pears. Considered as a whole, the season has not been a profitable one, owing to the late spring and severe drought. Vegetation, springs, streams and wells have not recovered from the early drought, many springs and wells are dry, and farmers have had to go quite a distance for all their water, both for house and stock.

Bolton (C. F. Haynes). — Corn has been a normal crop of good quality. Farm stock never was in better condition. Fall seeding is in good shape. Prices for market crops have been fully up to the average. The most profitable crops, in order, have been hay, potatoes, corn, asparagus and sweet corn. As a whole, the season has been a profitable one. Vegetation, streams, springs and wells have recovered from the drought, but are now going back again.

Oakham (Jesse Allen). — Compared with the normal, the corn crop was about 75 per cent in quantity and in quality, the early drought having curtailed it somewhat. Farm stock is rather thin. Fall seeding looks well. Prices for market crops have been about as usual. The most profitable crops, in order, have been milk, potatoes, corn, poultry and apples. The least profitable crops are hay and fruit. Considered as a whole, the season has not been a profitable one, owing to high wages for help, the high cost of living, and the low prices received for farm products. Vegetation, streams, springs and wells have not recovered from early drought, and the three latter are now very low.

Shrewsbury (Fred J. Reed). — In quantity, the corn crop was about 80 per cent of normal and of very good quality. The dry weather has been unfavorable to the best development of the crops, but the absence of frosts during the fall greatly helped out matters. Root crops are somewhat below the average, owing to the dry weather. Farm stock is in fair condition. Owing to dry weather, very little fall seeding has been done. Prices for farm crops have been about the average. The most profitable crops, in order, have been asparagus, strawberries, peas, beans and tomatoes. Judging from my own experience, the season has been a very unprofitable one, owing to the dry weather. The early drought shows its bad effects very plainly, and things will be in a serious condition unless we have rain very soon.

Southborough (E. F. Collins). — The corn crop is about 80 per cent of normal in quantity. The early drought and cold caused a poor germination, resulting in an uneven stand and a further retarded growth. Root crops are below the average, owing to lack of rain. Farm stock is in fair condition. Fall seeding is not up to the average. Prices in general show a little improvement each year. The most profitable crops, in order, have been hay, sweet corn, potatoes, apples and tomatoes. The season, as a whole, has not been a profitable one. The middleman gets all the profit. Help is scarce and poor, and with the dry seasons there is little profit to be had. Streams and wells are the lowest ever, and vegetation has not recovered from the early drought.

Warren (Wm. E. Patrick). — I believe that the corn crop is about 95 per cent in quantity and 97 per cent in quality. Farm

stock is in fairly good condition. Very little fall seeding was done, owing to the dry weather, but that little is in good condition. Very little change in prices for market crops. The most profitable crops, in order, have been grass, corn, rye and potatoes. The least profitable crops, in order, have been apples, peaches, oats and garden truck. Considered as a whole, I do not think the season has been a profitable one, owing to the drought and to the low price received for milk. The effects of the early drought are plainly evident in the appearance of vegetation and in the condition of streams, springs and wells.

Brookfield (Frank E. Prouty). — In quantity, the corn crop is about 75 per cent, but of good quality. The dry weather of June, July and August was unfavorable to this crop. Root crops have been about an average. Farm stock is in good condition. Fall seeding is in good condition, but needs rain. Prices for market crops have been about the same as usual. Hay is the most profitable crop. The season has hardly been a profitable one, owing to the lack of rain during the summer months. Vegetation, streams, springs and wells have not recovered from the effects of the early drought.

Charlton (Loren E. Stevens). — The corn crop was about an average in quantity, but the quality of the crop is below normal. The dry weather early in the season was very unfavorable. Root crops generally have been up to the average. The condition of farm stock is good. Fall seeding is in excellent condition. Potatoes have been cheaper, but other crops are about the same as usual in price. The most profitable crops, in order, have been corn, hay, potatoes and apples. Considered as a whole, the season has been a fairly profitable one. Vegetation, streams, springs and wells have not recovered from the effects of the drought; water is very scarce everywhere.

Auburn (William Gilbert). — In quantity, the Indian corn crop is normal, and it is about 90 per cent in quality. Owing to the very wet and cold weather early in the season which caused the corn to be planted late, only the very early varieties ripened well. Root crops have been about normal. Farm stock is in good condition. Fall seeded fields are looking well. Prices for market crops have been about the same as last year, except that potatoes are 25 per cent lower. The most profitable crops, in order, have been corn, cabbage, potatoes, oats and squashes. The least profitable crops, in order, have been onions, carrots, turnips and peas. As a whole, it has been a profitable season for the farmer. Vegetation seems to have recovered from the early drought, but streams and wells are very low.

Sutton (Herbert L. Ray). — Compared with normal there has been about a 50 per cent corn crop; the quality of the crop is about

90 per cent. The cold, wet spring, followed by the later drought, was unfavorable, but this was largely offset by the holding off of damaging frosts during September. Root crops have been an average crop. Owing to the very dry summer, farm stock is not in the very best of condition. Fall seeding is in very poor condition, owing to the dry weather this fall. Prices for farm crops have compared favorably with former years. The most profitable crops, in order, have been early sweet corn, cabbage, hay, apples and potatoes. On account of the dry weather the season has not been a very profitable one for farmers. Vegetation, streams, springs and wells show the effects of the early drought.

Southbridge (E. T. Torrey). — Corn is a 100 per cent crop in quantity and quality. Although June was very dry, the weather since July has been much more favorable. Root crops have been about an average. Farm stock is coming into the barn in good condition. Fall seeding is in fine condition. Prices this year have been rather higher than usual. The most profitable crops, in order, have been corn, hay, oats, apples and potatoes. It has been an average season, so far as profits are concerned. Vegetation and water supplies have not fully recovered from the effects of the drought.

MIDDLESEX COUNTY.

Townsend (George A. Wilder). — The corn crop is about 80 per cent of normal in quantity, and 90 per cent in quality. This was due to the fact that it was very dry about the planting time. Root crops have been about up to the average. Farm stock is in good condition. Fall seeding is doing well. Prices have ranged somewhat higher than usual this year. The most profitable crops, in order, have been peaches, apples and potatoes. Considered as a whole, the season has been a fairly profitable one. Vegetation, streams, springs and wells have not recovered from the drought; hunters report streams very low in all sections.

Littleton (George W. Sanderson). — In quantity, the corn crop is about 75 per cent of normal, and somewhat more than 50 per cent in quality. Most conditions have been favorable to this crop. Root crops have been about up to the average. Farm stock is in good condition. Fall seeding is in good condition. Prices this year have ranged somewhat above the average. The most profitable crops, in order, have been apples, corn and hay. The season has been a fairly profitable one for farmers. Vegetation and water supplies are about up to normal.

Billerica (E. F. Dickinson). — An estimate of the corn crop is 90 per cent of normal in quantity and about normal in quality. The drought in May and early June hindered germination, but the

weather since that time has been ideal. The drought in the spring also affected a germination of root crops; carrots are below normal in yield, and other vegetables are about normal. Farm stock is in excellent condition. Fall seeding is about up to the average. Except for a short time of over-supply, prices in Boston for market crops have been good. The most profitable crops, in order, have been apples, strawberries, hay, sweet corn and root vegetables. The least profitable crops, in order, have been milk, cabbages, peaches, potatoes and Indian corn; the latter is never profitable here, although a good yield was secured this year. We have had a very satisfactory season, generally, for farmers hereabouts. Vegetation and water supplies are in normal condition. We are gathering the finest apples ever picked here. The possibilities for fruit growing on the higher levels of land in eastern Massachusetts are greater than general realization. We have received this year, for a one-horse load of apples, over $60. Good soil and climate, and the Boston market, make this possible.

Concord (William H. Hunt). — The corn crop is about 95 per cent of normal in quantity, and is fully up to normal in quality. Early drought delayed the growth, but later rains were favorable and the late fall favored maturity. Root crops have done very well. The condition of farm stock is about the average. Fall seeding, although a little late, is now doing well. Prices of crops have been about the average. The most profitable crops, in order, have been asparagus, strawberries, hay and sweet corn. It has been a fairly profitable season. I should say that streams and springs had recovered from the spring drought.

Winchester (S. Symmes). — Root crops are not up to the average, as it has been too dry through the late fall to make turnips and carrots grow well. Farm stock is in good condition, the mild fall weather being favorable where they had good feed. Fall seeding is rather short, but shows a good catch. Cauliflowers have been lowest in price for many years. The most profitable crops, in order, have been pears, apples, celery, sweet corn and tomatoes. The least profitable crops, in order, have been cauliflowers, lettuce, early cabbage, potatoes and carrots. Considered as a whole, the season has not been a very profitable one; help has been hard to get; cost of grain and hay very high; cost of repairs to wagons and farming tools excessive; cost of repairs to buildings prohibitive. Many brooks and springs are entirely dry. Up to the afternoon of October 23 the ground was exceedingly dry; a good rain setting in about 5 P.M. continued through the night and did a lot of good to celery and fall seeding. Very few farmers are really getting any pay at all for their hard work and long hours.

Maynard (L. H. Maynard). — I should say the corn crop was

up to normal both in quantity and quality, although the dry weather of June and July was unfavorable; the fact that the frost held off until very late made up for the poor development earlier in the season. Root crops have been up to the average. Pastures have been short, but fall feed is good on mowing land and farm stock is in good condition. Fall seeding is in good condition. With a few exceptions, prices have been about the same as in former years. The most profitable crops, in order, have been hay, corn, apples, asparagus and strawberries. The least profitable crops were potatoes, pears and peaches; there were no pears or peaches to speak of, and the price for potatoes was too low to make them profitable. The season may be considered as a profitable one, but weather conditions were a drawback in many ways. Streams and springs are very low; the amount of water in the ground seems to have been getting gradually less for the past four years. We had a late, wet spring, but even with that the wells did not appear to recover.

Marlborough (E. D. Howe). — The corn crop is about 90 per cent of normal in quantity and in quality, owing to the six weeks' drought at planting time. Root crops have been about an average. Farm stock is in normal condition. Fall seeding is 90 per cent of normal in condition. Prices have ranged about 10 per cent higher than in former years. The most profitable crops, in order, have been strawberries, tomatoes, sweet corn, apples and potatoes. The least profitable crops, in order, have been peaches (few), pears, beans, silage corn and hay. Although products have sold for good prices, the drought prevented profitable crops, so that the season has not really been a profitable one. There has been no rowen, and but very light crops of supplementary fodder.

South Sudbury (E. W. Goodnow). — The corn crop is about 90 per cent of normal in quantity and quality. The warm summer weather and absence of frosts during the fall were very favorable for the crop. The root crop is up to average. Farm stock is looking well. Fall seeding is backward, owing to lack of moisture. The prices for crops raised for market are about the same as in previous years. The most profitable crops, in order, have been apples, potatoes, hay, Indian corn and celery. The least profitable crops, in order, have been sweet corn, squashes, onions and cabbages. As a whole, the season has been a profitable one. Vegetation has recovered from the early drought, but springs and wells are running low.

Weston (Edward P. Ripley). — Corn is about 90 per cent of normal in quantity, and the quality is very fair. Although the season has been very dry, corn has done remarkably well. Root crops have proved to be about an average crop. Farm stock is in fair condition, although fall pasturage is rather short. Fall seeding has

not germinated well, as the weather has been rather dry. Prices have been, for the most part, satisfactory. The most profitable crops, in order, have been sweet corn, apples, cauliflower and squashes. The season can be considered as a profitable one. Vegetation, streams, springs and wells have not recovered from the drought. The greatest drawback during the season has been the drought. It is now three or four years since the land has been thoroughly saturated, and springs that no drought for twenty-five years has affected are now very low.

Hopkinton (W. V. Thompson). — In quantity the corn crop has been fully normal and the quality is extra good. The spring was late and dry, but rains coming in July, together with the late fall and good care, resulted in a splendid crop. Where no care was taken, feeds were a full crop. The dry fall weather prevented the best development of roots. Farm stock is in good condition, where kept up and fed; pasture stock is thin and poor. Fall seeding is about 50 per cent of normal, owing to late drought. Potatoes have been a little lower in price, but squashes about the same. The most profitable crops, in order, have been silage corn, first-crop grass, potatoes and squashes. The least profitable crops, in order, have been root crops, apples, pears, peaches and plums. I should say that the season had been a profitable one for farmers, but this depends upon what they raise. The drought still shows its bad effects.

ESSEX COUNTY.

Salisbury (Wesley Pettingill). — There is rather more than a normal corn crop; the quality is good, with no frost damage. Corn was a little late, but the frost, holding off a little better than usual, gave it a chance to ripen in good condition. Root crops have been a good average. Farm stock is only in fair condition, as feed has been a little short the last three weeks. Not much fall seeding has been done, but what has been done is looking well. Early crops brought a good price; late crops not as much as some years. The most profitable crops, in order, have been hay, apples, corn, early sweet corn. The least profitable crops, in order, have been squashes, potatoes (although a good crop, the price was very low), beans (dry). I think the season has been about an average one for the farmer. Vegetation has recovered wonderfully since the drought; springs are now getting a little low.

Merrimac (S. Bixby Sargent). — Early planted corn is about the average; late planted, not over 66⅔ per cent of normal, owing to the fact that it did not germinate well because of the dry weather. Root crops have turned out very good. Farm stock is in good condition. Fall seeding never was in better condition. Prices for

early crops were high, but for late crops they averaged rather low. The most profitable crops, in order, have been green shell beans, hay, silage corn, beets and carrots. The least profitable crops, in order, have been cauliflower, peas, cabbages, squashes and potatoes. Farmers this year have done fully as well as usual. Vegetations, streams, springs and wells are about normal in condition.

Groveland (A. S. Longfellow). — Corn is about 90 per cent of normal in quantity, and 80 per cent in quality. The growth was checked by the hot and dry weather in June and July, and was somewhat retarded by the cool weather of August. Root crops have proved to be about up to the average. Farm stock is in good condition. Fall seeding is doing well. Prices this year have been somewhat better than usual because of short crops. The most profitable crops, in order, have been hay, corn, apples, potatoes and tomatoes. The least profitable crops, in order, have been peaches, cauliflower, strawberries and squashes. Considered as a whole, the season has been a profitable one for farmers. All streams and wells are very low at the present time.

Newbury (George W. Adams). — The corn crop is fully up to normal, and of excellent quality. There was a considerable drought, but no serious injury. Root crops have proved to be fully up to the average. Farm stock is in very good condition. Fall seeding is slow, but coming along well. Prices for market crops have been very good. The most profitable crops, in order, have been potatoes, corn, apples, strawberries and root crops. The least profitable crops, in order, have been pears, peaches, celery and cucumbers. The season, as a whole, has been a fairly profitable one. The chief drawback is lack of good labor at any reasonable price. The streams, springs and wells, as well as vegetation, have by no means recovered from the early drought.

Rowley (B. H. O'Brien). — The corn crop is about 85 per cent of normal in quantity, owing to lack of rain early in the season. Root crops have been about the average. Farm stock is in good condition. Fall seeding is also in good condition. Prices for farm crops have ranged somewhat below the average. The most profitable crops, in order, have been hay, apples, corn, potatoes and tomatoes. The least profitable crops, in order, have been cabbage, peas, peaches, cranberries and beans. The season, as a whole, has been a fairly profitable one. While vegetation has recovered from the effects of the early drought, wells and springs are still rather low.

Topsfield (B. P. Pike). — Compared with normal, the corn crop is about 90 per cent in quantity and 80 per cent in quality, owing to the drought. Root crops have been a full average. Farm stock is in good condition. Fall seeding shows a good catch and is grow-

ing well. Prices for market crops have been fully up to the average. The most profitable crops, in order, have been milk, hay, apples, sweet corn and potatoes. The season, as a whole, has been fully up to the average, from the standpoint of profit. Vegetation, streams, springs and wells have not recovered from the effects of the drought. The apples raised in this vicinity this year were the largest and fairest ever grown in this locality.

Wenham (N. P. Perkins). — The corn crop is of good quality and about 75 per cent of normal in quantity, although there is not very much corn raised in this vicinity. Onions have failed, except in a few places; carrots, beets and parsnips are an average crop. Stock is looking well, but requires considerable feed at the barn to keep up the flow of milk. I believe there has been less fall seeding done than usual, and what has been done germinated slowly and will hardly stand the winter well. I think prices have averaged rather lower than in 1911, and have been very uneven. The most profitable crops, in order, have been apples, hay, squashes, sweet corn and milk. The least profitable crops, in order, have been cabbages, tomatoes, beets, potatoes, peas and onions. We are paying up fairly well for fertilizers and help; whether there is any profit or not depends upon the prices obtained for what we have now to sell. It is dryer at this writing than it has been at any time this season. Springs and wells are quite low, and we are hoping for rain at this time. The early drought affected those crops only on high land. Some seed came up after remaining a long time in the ground. Most of the apple trees have been sprayed, more than usual, with the result that a much better crop has been obtained.

NORFOLK COUNTY.

Cohasset (Ellery C. Bates). — Corn crop is 90 per cent of normal in quantity and of normal quality. Warm weather has been favorable to its best development. Root crops have been average. Condition of farm stock is good and of fall seeding fair. Market prices for crops have ruled about normal. The most profitable crops, in order, have been cauliflower, beans, tomatoes, potatoes and corn. The least profitable crops, in order, have been peas, onions, cabbage, lettuce and spinach. It has been about an average season for farmers as regards profits. Vegetation and water supplies have not recovered from the drought.

Norwood (Frank A. Fales). — The crop of corn is about 85 per cent of a normal in quantity, and about 80 per cent in quality. The dry weather in June prevented some seeds from sprouting, but the lateness in coming of fall frosts gave the crop time to mature. Root crops are an average; the dry time in September and October

did not seem to affect them. Farm stock is looking well. There seems to be weeds in the early fall seeding. The prices for market crops have been about the same as the average for the past ten years. The most profitable crops, in order, have been English hay, corn, cabbage, potatoes and squash. The least profitable crops, in order, have been apples, pears, cranberries and tomatoes. The season has been a profitable one for farmers. Vegetation, streams, springs and wells have not recovered from the effects of the early drought; springs were never so low.

Millis (E. F. Richardson). — The corn crop is normal in amount and 95 per cent in quality. Rain in August and September and good harvesting weather, with no early fall frosts, were favorable factors in the development of the crop. The early drought was unfavorable to the crop. Root crops have proved to be an average; the rain in August and subsequent good fall weather gave them a good growth. Farm stock and fall seeding are both in excellent condition. Prices for crops raised for market have been fair. The most profitable crops, in order, have been corn, hay, potatoes, apples and onions. The least profitable crop has been hay on old land. As a whole, the season has been a profitable one for farmers. Vegetation and water supplies have recovered from the early drought, but at present the drought is very severe.

Franklin (C. M. Allen). — In quantity the corn crop is normal, but in quality only 90 per cent. May and June were very dry, but there has been rain enough for the crop since. Root crops have been good average ones. Farm stock is in good condition. The condition of fall seeding is 90 per cent. Prices for market crops have been normal. The most profitable crops, in order, have been potatoes, apples, grapes, hay and corn for the silo. The least profitable crops, in order, have been pears, squashes, peaches and plums. As a whole, the season has been a profitable one; light rains since June 15 have kept the top of the land moist enough for crops. Streams, springs, wells and vegetation have not recovered from the effects of the drought, and it is very dry on date, October 21.

Foxborough (William E. Perkins). — In both quality and quantity Indian corn is 100 per cent. The dry weather has been unfavorable to the crop. Root crops have proved an average. Condition of farm stock is good, but fall seeding is poor on account of dry weather. Market prices have ruled lower than in 1911. The most profitable crops, in order, have been potatoes, hay, sweet corn, field corn and carrots. This has not been a profitable season for farmers. The effects of the early drought are still apparent.

Avon (S. Frank Oliver). — Corn for ensilage was the best it has been for several years, both in quantity and in quality. Corn for table use has been extra good. Early corn crops got the benefit

of the late spring rains so that the drought did not injure them. Late crops were not planted until the drought was broken, and came on quickly. All root crops have done well, although the late rains prevented early planting. The warm weather of the last few weeks has improved them wonderfully. Farm stock is in good condition. Very little fall seeding has been done. Prices have ruled about the same with a slight upward tendency. Milk production is the largest and most profitable work carried on, and most of the crops are intended to be used for feeding cattle. The season has been a good one, the milkmen having had good feed for their stock nearly all the time. There has been a good demand for milk, and with good prices. Vegetation and water supplies have recovered from the effects of the drought. While most of the people in this section are employed in the factories, we find that where they have always bought their vegetables, the kitchen garden is now becoming much more common, and the people generally are seeking to overcome the high cost of living by raising what they can on even small lots.

BRISTOL COUNTY.

Easton (William N. Howard). — In both quality and quantity the corn crop is about normal. The late, wet spring was rather unfavorable to the crop, but the hot season has been well extended into the fall. Potatoes are excellent; turnips, average; beets, carrots and parsnips, good crops. Pasture feed is short at the closing season, but farm stock is in average condition. It has been too dry except on lowlands for successful fall seeding. Crops have brought average prices, as a rule, with a downward tendency. No one is getting rich very fast, so far as I have observed. Vegetation, streams, springs and wells have not recovered from the unusual and extreme drought.

Mansfield (E. Jasper Fisher). — The corn crop was less than normal in quantity and quality. Cool nights and lack of moisture have been unfavorable factors in the development of the corn crop. Root crops have been about an average. Farm stock is in fairly good condition. The fall seeding is in good shape. Market prices have been somewhat lower than in former years. The most profitable crops, in order, have been hay, corn, potatoes, cucumbers and apples. The least profitable crops, in order, have been cranberries, pears, strawberries and peas. As a whole it has been a fairly profitable season for farmers. Vegetation and water supplies have not recovered from the drought.

Norton (Henry G. Danforth). — The quality of the corn crop is normal. Unfavorable factors in its development were drought

and smut. The drought affected root crops also. The condition of farm stock is good. Fall seeding is in fair condition. Prices have ranged about the same as last year. The most profitable crops, in order, have been hay, potatoes and corn. For farmers it has been about an average year. A great many wells are dry and vegetation has not recovered from the drought.

Seekonk (John W. Peck). — In quality the corn crop is 75 per cent. April and part of May were wet; crops started with roots near the surface, and the dry weather came on and retarded growth. All root crops are remarkably good. Farm stock is in fairly good condition, 75 to 85 per cent of normal, owing to dry weather in September and consequent short feed. Fall seeding is poor; what came up cannot grow. Good quality crops of any kind have been sold at fair prices, nearly up to normal. The most profitable crops, in order, have been tomatoes, cucumbers, lettuce, parsnips and beans. The least profitable crops, in order, have been potatoes, peas, spinach, cabbage and dandelions. Take it as a whole, the season has been one of profit to farmers. Some crops have been abundant at good prices; others, poor in quality and price. The worse water famine ever known is on in this locality; vegetation is dried up and there is no sign of rain. In this immediate vicinity growers that have watering systems have had excellent returns. All have done remarkably well, taking the weather conditions into consideration.

Dighton (Howard C. Briggs). — Corn is 80 per cent in yield and of average quality. Very wet weather at seeding time, followed by drought, reacted to the best development of the corn crop. Root crops have not proved average because it has been too dry. The condition of farm stock is good. The condition of fall seeding is average. Market prices have been lower than in former years. The most profitable crops, in order, have been strawberries, tomatoes, sweet corn and asparagus. The least profitable crops, in order, have been potatoes, cabbage and beans. The season has been below the average, as regards profit to farmers, on account of drought. More wells are dry than ever before; streams are very low. Many farmers have carted water for stock for weeks. Rain has not fallen for a long time.

Acushnet (M. S. Douglass). — There was a normal crop of Indian corn of good quality. Heavy rains in August were very beneficial to the crop. Root crops have proved to be an average. On account of dry weather farm stock is not in as good condition as it should be. Fall seeding is backward as we have had no heavy rains. Prices have been lower, on the whole. The most profitable crops, in order, have been hay, corn, potatoes, strawberries and apples. The least profitable crops, in order, have been peas, onions, beets, raspberries and sweet corn. As a whole, the season has been fairly

profitable; late frosts in spring and dry weather through the summer caused what one might call a not very prosperous season. We have had no rain since September 11, when we had a severe tempest and downpour. Continuous pleasant weather, with occasional frosts, has been the rule. Vegetation and water supplies have not recovered from the drought. In this locality we have a good many milk farms, and there is a large quantity of corn fodder raised which helps out milk production.

PLYMOUTH COUNTY.

Norwell (Henry A. Turner). — The spring was late and unfavorable, but the frosts have held off this fall so that the corn crop is pretty good in quantity and quality. Root crops have been good, especially turnips. Farm stock is in good condition. What fall seeding I have seen showed a poor catch. Market prices have been about normal. The season has been a good one for farmers. Streams, springs and wells at the present time are very low, and vegetation has not recovered from the effects of the early drought.

Campello (Davis Copeland). — The quantity and quality of the corn crop are about normal. The cold, wet weather early in the spring delayed planting, but warm growing weather later on favored the crop. Root crops have hardly proved an average, owing to the dry weather. The condition of farm stock is good. Early seeding is looking well; late seeding, not so good. Market prices for crops have been rather below those of former years. The most profitable crops, in order, have been corn, potatoes, hay, lettuce and spinach. The least profitable crops, in order, have been onions, peas, sweet corn and early squash. The past season has not been remarkably profitable, owing to the price of labor and the low price of produce. Vegetation, streams, springs and wells have not recovered from the early drought, and are suffering from the present drought.

Halifax (Mrs. George W. Hayward). — The corn is extra good, due to the long, dry season which allowed it to ripen in good shape. The first of the season was very dry, but the rain came just in time to save the crop. Root crops have proved to be more than an average. Farm stock is in good condition. Owing to dry weather, fall seeding is in poor condition. Potato prices are lower than in former years; turnip prices are about as usual; onion prices are the same. The most profitable crops, in order, have been potatoes, hay, corn, turnips and onions. The least profitable crops, in order, have been beans, cabbage, rye and oats. This has been a profitable season for farmers. Wells are most all dry, and ponds, rivers and streams are very low.

Carver (J. A. Vaughan). — Corn is an average crop of best qual-

ity. Drought in July checked its growth, but rains in August carried out the crop, and the dry September was favorable for harvesting it. Early sown fall seeding came up well, but late sowings have not and will not come up until we have rain. Market prices have been average. The most profitable crops, in order, have been cranberries, potatoes and strawberries. The season has been a profitable one. Streams and wells are very low. Our leading crop is cranberries. Some bogs were injured by spring frost and fireworms, but there were no frosts during picking time hard enough to injure the berries, and an average crop of fruit of the best quality has been gathered.

Rochester (George H. Randall). — The corn crop is probably about 80 per cent of normal; some fields are fully normal and others about 60 per cent. The quality is generally normal. The dry weather during September and October was favorable for ripening the crop, although the cold, wet spring and following severe drought were detrimental to its best devlopment. Root crops have proved to be an average. Farm stock is in fully as good condition as usual. On low land fall seeding is looking very well, but dry lots are suffering for want of rain. Market prices have been fully up to the normal. The most profitable crops, in order, have been hay, corn, potatoes and cranberries. The least profitable crops, in order, have been oats, strawberries, raspberries and melons. For a majority it has been a profitable season. Wells are failing and streams are dry. A few fields of corn did not show a stand of more than 50 per cent on account of the drought, but what did grow is a good crop. Early potatoes were a failure, generally, but late-planted made a good yield of fine quality.

BARNSTABLE.

West Falmouth (D. R. Wicks). — Where corn was planted early and came up well the yield is fully up to 100 per cent; the quality is normal. A number of pieces came up poorly, and birds pulled some, so that much had to be planted over twice, and some three times, the result being that the crop is mostly fodder. Root crops are fully up to average. Plenty of fall feed is making farm stock look fine. Fall seeding is doing well. Prices have been fully up to those of former years with some higher. The most profitable crops, in order, have been sweet corn, peas, hay, squash and string beans. The least profitable crops, in order, have been melons, lettuce, potatoes, pears and onions. The season has been a profitable one, as a whole. Wells and streams have not suffered from the drought. We had a little frost on October 20, but only in streaks. It is surprising to see how well vegetation has grown after such a cold, wet, backward spring.

Barnstable (JOHN BURSLEY). — Corn crop is 85 per cent of normal in quantity. That which is husked is very green and soft. The very late spring and cold summer were not favorable to the best development of the crop. Our cape turnips started well, but have suffered for want of rain of late. Farm stock is in good condition. August-sown pieces came up well, but have suffered for want of rain the last six weeks. Market prices have averaged the same as, or a very little better than, in former years. The most profitable crops, in order, have been cranberries, potatoes, hay and corn. It is too early as yet to tell how profitable cape turnips will have been. As a whole, this has been a profitable season. The drought of the past six weeks has been as fully severe as was the early drought.

Dennis (JOSHUA CROWELL). — In both quantity and quality the corn crop is normal. Root crops have hardly proved to be average, as the fall has been very dry. Farm stock is in good condition. But little fall seeding has been done. Prices for crops raised for market have shown but little change from last year. The most profitable crops, in order, have been cranberries, poultry, potatoes, corn and asparagus. The season has been a profitable one for farmers. Vegetation, streams, springs and wells have not recovered from the effects of the early drought. The cranberry crop is fully up to the average both in quantity and quality.

Brewster (THOMAS D. SEARS). — In quantity the corn crop is 25 per cent above normal; in quality it is very good. The general conditions of the weather have been favorable to its best development. Root crops are above the average. The condition of farm stock is good. Fall seeding is rather below normal, owing to the dry weather. Prices for market crops compare favorably with former years. The most profitable crops, in order, have been cranberries, apples, potatoes, onions and turnips. The least profitable crops, in order, have been beans, asparagus, strawberries, peaches and pears. The season as a whole has been a profitable one for farmers. Vegetation, streams and wells have recovered from the effects of the early drought.

Wellfleet (EVERETT JACOBS). — There is but little corn raised, not enough to make a report. Sweet corn was benefited by the early rains. All root crops are above the average, especially turnips and beets. Fall seeding is not looking as well as usual. About the normal prices have been current, excepting that potatoes have been below the average. The most profitable crops, in order, have been cranberries, strawberries, potatoes, sweet corn and beans. The least profitable crops, in order, have been tomatoes, Swiss chard, celery, onions and parsnips. Farmers have prospered and have sold their crops for good prices in the market afforded by summer vacationists.

Springs are very low and ponds have never been so low as during the last two or three months.

Truro (John B. Dyer). — The corn crop is about normal in yield and quality. All root crops have proved to be average, excepting late turnips, which promise to be a partial failure on account of the dry fall. Farm stock is in good shape. Fall seeding is in fair condition save that it is now suffering for want of rain. Market prices have been good, probably above average. General garden truck has been the most profitable. The season has been a profitable one, more particularly for market gardeners who have Provincetown for a market, where summer people and warships come. Vegetation, streams, springs and wells have hardly recovered from the effects of the early drought; the late drought is on now. Grass on dry land has suffered the past few weeks on account of dry weather, as has all fall vegetation on high or upland soil.

DUKES.

West Tisbury (George Hunt Luce). — Corn is a normal crop in both quantity and quality. The warm, dry weather, with just the right amount of moisture, was ideal for the crop. Root crops have been a good average. Farm stock is in very good condition. Prices this year have been higher than usual. The most profitable crops, in order, have been corn, hay and potatoes. The least profitable crops, in order, have been fruits, cranberries and strawberries. On account of the early drought the season has not been as profitable as usual for farmers. Vegetation, streams, springs and wells have recovered from the effects of the early drought, but the late drought shows very bad results.

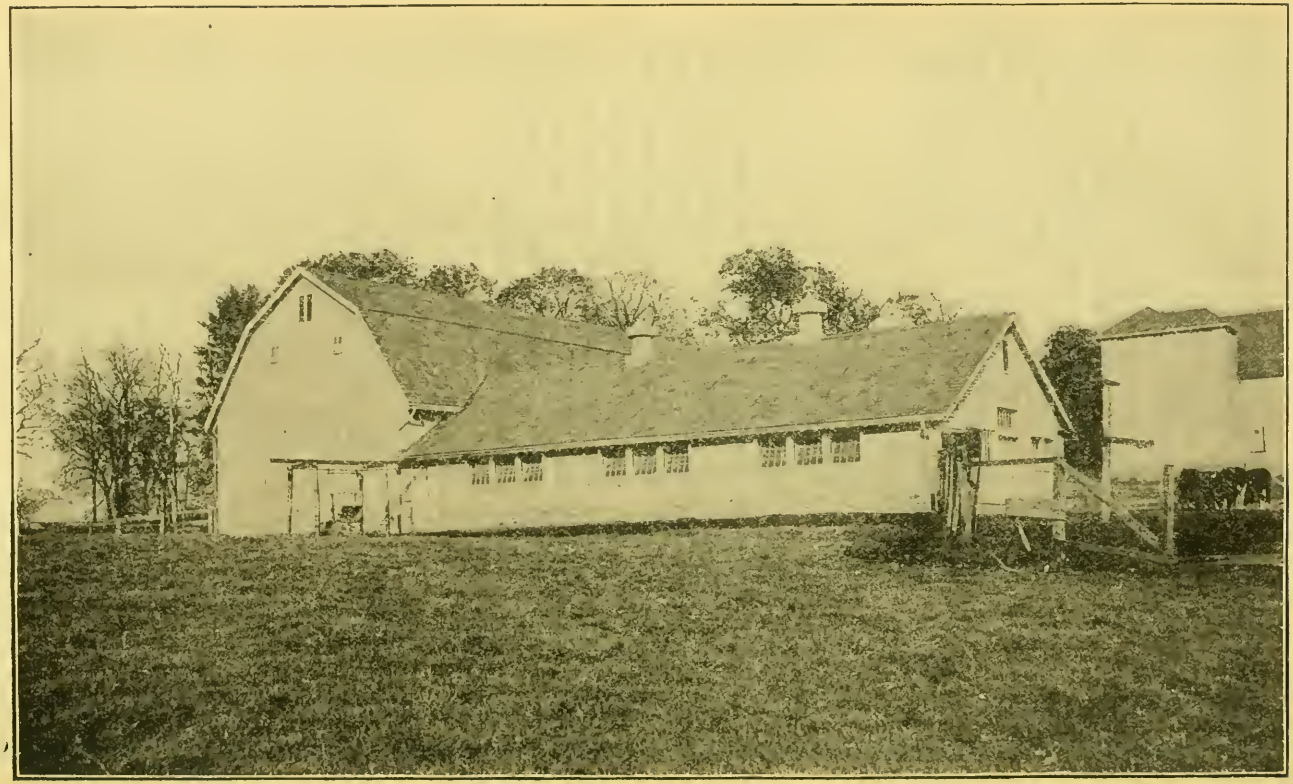


FIG. 1. — Young stock barn, Massachusetts Agricultural College. Main barn for hay storage, with gambrel roof. The stable is in the wing and has no storage above it. Fig. 2 shows the truss used in the main barn and Fig. 3 the one used in the stable.

BULLETIN OF

MASSACHUSETTS BOARD OF AGRICULTURE.

SOME SUGGESTIONS ON BARN BUILDING.

By J. A. Foord, Professor of Farm Administration, Massachusetts Agricultural College.

The United States census for 1910 gives the value of farm buildings in Massachusetts as $88,636,149. If the value of farm dwellings is omitted and also the buildings on the estates of wealthy men, which are seldom built from the commercial standpoint, there still remains a very large investment, and one that in the opinion of the writer will abundantly repay for much more careful study and supervision than has heretofore been put upon it by the business farmer.

The question of building a modern dairy stable on many farms is complicated by the fact that there are already on the farm one or more barns in a fairly good state of preservation. These barns were considered good enough forty years ago, but owing to the introduction of modern machinery and better methods of caring for live stock and live-stock products, they are now in about the same class as the log cabin or sod house would be for human habitation. These barns are often too good to destroy or pull down and must be used in any scheme of reconstruction if economy is to be considered. On the other hand, the farmer should not forget that labor is a constant and continuous charge, and that any arrangement or device that saves time or labor is worthy of careful consideration. These factors make barn building on most farms an individual problem, but the following general principles may be of assistance.

Location. — The location of the dairy barn should, if possible, be near the center of the cultivated area of the farm, on well-drained soil and so placed that there will be plenty of direct sunlight in the stables, as well as opportunity for a warm, sunny, well-drained barn yard that is protected from the prevailing winds. The question of water supply should also be considered before the location is settled upon. Placing the barn near the center of the cultivated area will save labor in hauling hay, corn fodder and other forage, as well as

manure. The public highway often influences the location of farm buildings, but more consideration might well be given to this point. The writer knows of a 65-acre farm in one piece, all of which may be cultivated, where the barns are located at the highest corner of the area, and are considerably over one-half a mile from the further side of the farm; many similar instances could be cited. The desirability of plenty of sunlight in the stables and yards hardly needs comment. It is an excellent disinfecting agent and a valuable aid in maintaining the health of the herd and good sanitary conditions. A well-graded barn yard on soil with good natural drainage is very desirable, and will, in addition to furnishing good conditions for a winter-exercising yard, save much labor in cleaning cows when compared with the quagmires one sometimes sees masquerading under the name of barn yards.

Type of Barn. — It is a fact that an equal amount of lumber will enclose more space when built into a circular barn than any other shape; the round barn when properly built is also strong, convenient, and does not offer as great resistance to the wind as a rectangular structure. The round barn does not offer as good opportunities for enlargement as some others, but aside from this, it is not easy to give logical reasons why it has not come into more general use. The writer, however, is not ready to recommend it without qualification for a dairy barn, but would suggest to those interested a careful study of Bulletin No. 143, of the Illinois Agricultural Experiment Station, on the economy of the round dairy barn. The Illinois Experiment Station is located at Urbana.

Next to the circular structure, a square is the most economical of material, when the walls and floor space enclosed are alone considered. The square, which encloses the same floor as a circle, requires nearly 11½ per cent more wall, while the oblong or rectangular structure, four times as long as the width, giving the same floor space, will require 40 per cent more wall than the circle and 25 per cent more than the square. The reader can easily verify these figures by a little calculation. They are mentioned here in order to call attention to the fact that the long, narrow structure does not allow the most economical use of material employed in construction. The roof, however, can be lighter, but this will only partly offset the additional expense.

Another factor should be considered, and that is the relation of height to capacity. It costs just about the same to build the foundation and roof for a barn with 12-foot posts as it does for one with 20-foot posts, and the latter will thus furnish storage at a much lower per ton rate than the former. Deep mows also hold more per square foot than shallow ones, owing to the increased pressure due to extra weight of material. With the modern horse or power hay

fork and track available to all, barns to be used for the storage of hay should be built of good height. The height and consequent storage capacity can be considerably increased by using a gambrel or curb roof instead of a gable roof. Figs. 1 and 2 illustrate this point. Attention is also called to the method of framing. Both frames are made up from 2-inch lumber, and take much less timber than the old fashioned frame. The truss shown in Fig. 2 is very strong and is placed every 12 to 15 feet, the intervening space being studded with $2'' \times 6''$ timbers, 20 or 24 inches on centers. The joist frame is also a strong, rigid structure; many barns have been built on this plan in the north central States and seem to be very satisfactory.

One other question that will need to be settled before deciding on the best type of barn for a given location and purpose is whether hay and other fodder is to be stored over the cattle or not. Considerable objection has been made to this practice in the last few years, and it is probably true that ideal conditions can be more easily maintained in a stable that is apart from the storage barn or attached to it only at one end. On the other hand, it is more expensive, and there is really no good reason why excellent conditions for the production of even the highest grades of milk cannot be maintained in a stable, even if hay is stored above, *provided,* that there is (1) a tight ceiling; (2) a good ventilating system, one that works; (3) a room outside the stable where hay can be thrown down, so that hay is never thrown from the mow directly into the stable, but is drawn in on trucks; (4) plenty of windows so that light and air are admitted on both sides; and (5) that reasonable sanitary conditions are maintained in the stable itself.

The Cow Stable. — The floor of a cow stable should be nonabsorbent, easily cleaned, not slippery, a nonconductor of heat, and durable. A wooden floor does not fulfill these conditions. The most satisfactory floor available to-day for this purpose is undoubtedly made of cement, with some material that is a nonconductor of heat in the stalls where the cattle stand. The writer is inclined to believe that bricks made of ground cork and asphalt are the best material for this purpose; they are laid in hot asphalt and seem to be giving satisfactory results where they are in use. Many dairymen use a cement floor in the stalls as well as in the other parts of the stable, but it is not entirely satisfactory. All slopes and grades where the cattle are to pass should be left rough, that is, given a float finish. The smooth trowel-finished cement is much more easily cleaned and should be used for the feed floor and mangers, and may be used for the walk behind the cows if ordinary care is taken in handling the cattle. The cattle are more apt to slip on the smooth finished floor.

In the arrangement of the cow stable there should be not less than two rows of stalls if the most economical use of space is desired. Whether the cattle should face in toward the center or out toward

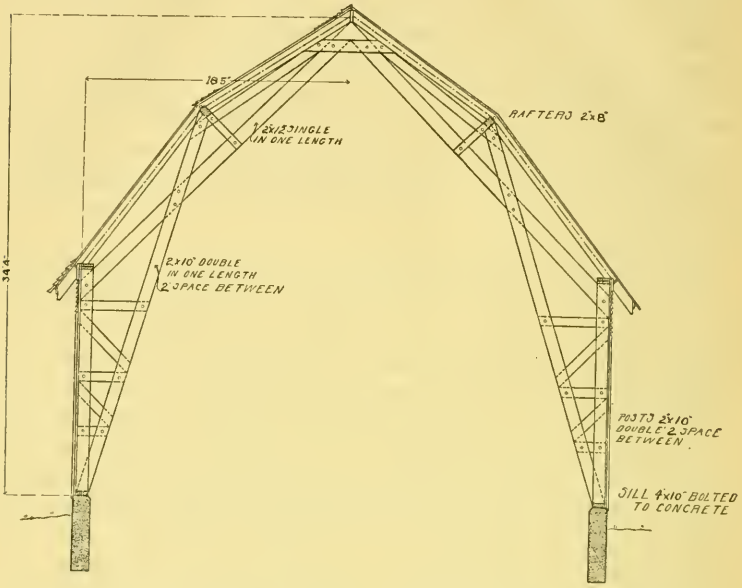

18'5"
34'4"
RAFTERS 2x8"
2x12 SINGLE IN ONE LENGTH
2x10" DOUBLE IN ONE LENGTH 2" SPACE BETWEEN
POSTS 2x10" DOUBLE 2" SPACE BETWEEN
SILL 4x10" BOLTED TO CONCRETE

FIG. 2.—Truss to avoid interior posts in a storage barn. These are placed every 12 or 14 feet.

the outside walls is a disputed point. In stables built on the latter plan it is possible to drive a cart or manure spreader through the center of the stable behind the cows and load the manure directly

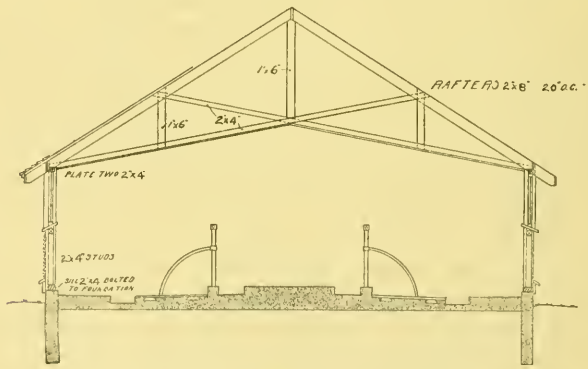
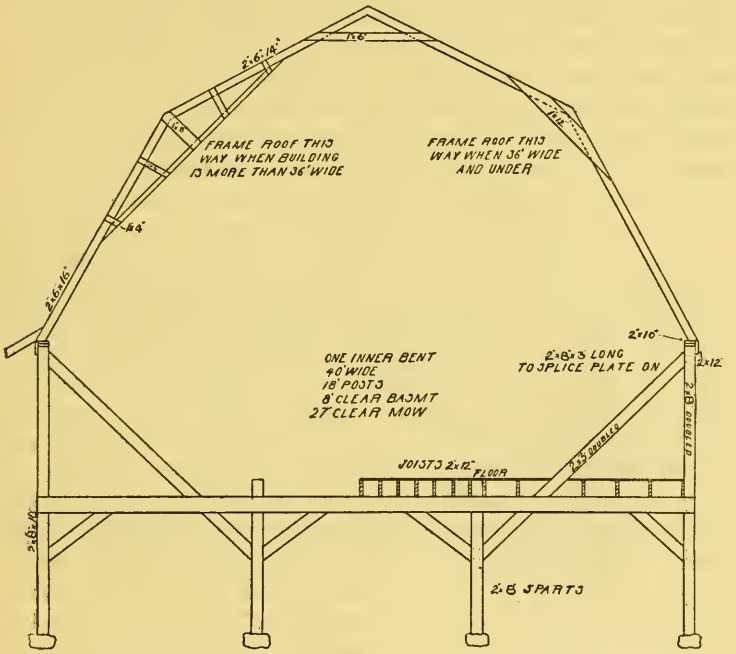


FIG. 3.—A cheap and efficient truss for a stable roof.

from the gutters, thus saving one handling. On most farms, however, it is not always convenient to have a team available at just the

time the stables are cleaned, but it is easy to place a cart or spreader where the modern manure carrier can be dumped into it, and this plan seems to have a number of advantages over the other. If a manure carrier and overhead track is to be used, the best arrangement is to face the cattle toward a center feed walk. The width of a stable to accommodate two rows of cows, including feed floor, should be not less than 34 feet, and better, 36 feet, while 40 feet in width makes a very desirable stable. Stalls should be from 4 feet 6 inches to 5 feet long, only the largest Holstein requiring the latter


FRAME ROOF THIS WAY WHEN BUILDING IS MORE THAN 36' WIDE
FRAME ROOF THIS WAY WHEN 36' WIDE AND UNDER
ONE INNER BENT
40' WIDE
18' POSTS
8' CLEAR BASMT
27' CLEAR MOW
2×8×3 LONG TO SPLICE PLATE ON
JOISTS 2×12" FLOOR
2×8 STUDDING
2×8 STUDDING
2×8 STUDDING

condensation on very cold nights, and this can be largely overcome by the use of double glazed windows.

Ventilation. — It is stated on good authority that the cow needs to be supplied with twice the weight of pure air that she does of food and water combined. The good feeder tries to furnish as much good food and water as the animal can use to advantage. If the best results are to be obtained, the same policy must be followed with reference to pure air. The problem of furnishing this pure air during the winter months without lowering the temperature of the stable enough to decrease the milk flow has brought into use several systems of stable ventilation. Each system has its advantages, and the best one for any particular instance depends somewhat upon local conditions and the kind of building. Whatever system is adopted, it should be remembered that the warm air in the stable rises to the ceiling. This may be taken advantage of for two purposes: first, to warm the incoming air, and second, to cause a draught in the out-take flue. The best results are obtained in any system when the fresh air is taken in through a number of small openings scattered through the different parts of the stable, and when the out-take flues are few in number and of large size. If the incoming air can be brought in near the ceiling and dropped through the warm air that is always present, it will be an additional advantage. Ventilating flues, especially the out-take, should be tight and well built in order to give the best service. The out-take flue should not be placed where it will be too easily chilled, as this will decrease the rapidity of flow through the flue. It should not be placed between the rafters; if necessary to follow the roof line, a tight wooden flue should be built below rather than between the rafters. Well-built ventilating flues under ordinary conditions will allow the air to pass through at the rate of about 300 feet per minute without mechanical forcing and without the aid of heat other than that derived from the animals in the stable; 3,500 cubic feet per hour per 1,000 pounds of live weight is usually considered about the amount that should be supplied to dairy cattle. This is based upon the assumption that a thousand-pound cow will breathe 2,804 cubic feet of air in twenty-four hours, and that it is not desirable that the air in the stable contain more than 3.3 per cent of air once breathed. It has often been stated that the carbon dioxide thrown off from the lungs which is detrimental if breathed again, settles to the floor. It is a well known fact, however, that when different gases come together a diffusion or mixing begins to take place at once, and this probably happens in the stable. Recent tests reported to the writer indicate that this is the case, and that the carbon dioxide is fairly well diffused throughout the stable.

If there is plenty of window space in the barn, this can be made

to furnish excellent ventilation. The Sherringham window is good; this is simply a triangular piece of metal or wood placed at the side of the window so that it can be dropped out at the top and the air be deflected toward the ceiling instead of striking directly on the cattle. The removal of the windows and the substitution of cloth has sometimes been recommended; this does not give good results for the reason that the air of the cow stable contains a good deal of moisture and some dust, and the meshes of the cloth very soon become stopped up, so that air does not pass through readily. It is undoubtedly a good method for the sick room.

In conclusion, the writer would urge any one who is planning to build or rebuild a dairy barn (1) to visit as many other barns as he can; (2) to allow for expansion of the business; and (3) to draw plans to scale a year before building operations are begun; the last will save expense, as it is easier to correct mistakes made on paper than those made with actual building materials. In the study of the problem, the following publications may be of service: —

The Farmstead, by Roberts, publisher, Macmillan Company.
Farm Buildings, Sanders Publishing Company.
Physics of Agriculture, by King, published by the author, Madison, Wis.
Ventilation, by King, published by the author.
Bulletin 143, Economy of the Round Dairy Barn, Illinois Experiment Station, Urbana, Ill.
Bulletin 250, College Farm Buildings, Michigan Agricultural Experiment Station, Lansing, Mich.
Bulletin 164, The King System of Ventilation, Wisconsin Agricultural Experiment Station, Madison, Wis.
Circular 131, Designs for Dairy Buildings, Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.